

**INITIAL STATEMENT OF REASONS
FOR PROPOSED BUILDING STANDARDS
OF THE STATE FIRE MARSHAL
REGARDING THE 2022 CALIFORNIA FIRE CODE
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 9**

(SFM 06/21)

The Administrative Procedure Act (APA) requires that an Initial Statement of Reasons be available to the public upon request when rulemaking action is being undertaken. The following information required by the APA pertains to this particular rulemaking action:

STATEMENT OF SPECIFIC PURPOSE, PROBLEM, RATIONALE and BENEFITS

Government Code Section 11346.2(b)(1) requires a statement of specific purpose of each adoption, amendment, or repeal and the problem the agency intends to address and the rationale for the determination by the agency that each adoption, amendment, or repeal is reasonably necessary to carry out the purpose and address the problem for which it is proposed. The statement shall enumerate the benefits anticipated from the regulatory action, including the benefits or goals provided in the authorizing statute.

**CHAPTER 1
ADMINISTRATION
DIVISION I
CALIFORNIA ADMINISTRATION**

Item SFM 1-1

Chapter 1, Administration, Division I, California Administration, Section 1.1.1 Title

The SFM is proposing to repeal the adoption by reference of the 2018 International Fire Code and incorporate and adopt by reference in its place the 2021 International Fire Code for application and effectiveness in the 2022 California Fire Code.

Item SFM 1-2

**Chapter 1, Administration, Division I, California Administration, Section 1.1.0
General through 1.1.12**

The SFM is proposing to maintain the adoption of those existing California provisions contained Sections 1.1.0 through 1.1.12 with modification.

Item SFM 1-3

**Chapter 1, Administration, Division I, California Administration, Section 1.1.0
General through 1.1.11**

The SFM is proposing to carry forward existing California provisions contained in Sections 1.11 through 1.11.11 with amendments as shown below.

Item SFM 1-4

Chapter 1, Administration, Division I, California Administration, Section 1.11.4.4 Fire Clearance Preinspection

Government Code Section 11346.2(b)(1) requires a statement of specific purpose of each adoption, amendment, or repeal and the problem the agency intends to address and the rationale for the determination by the agency that each adoption, amendment, or repeal is reasonably necessary to carry out the purpose and address the problem for which it is proposed. The statement shall enumerate the benefits anticipated from the regulatory action, including the benefits or goals provided in the authorizing statute.

EXISTING LAW

Pursuant to Health and Safety Code Sections (HSC) § 13108, the State Fire Marshal shall enforce regulations and standards and other regulations that have been formally adopted by the State Fire Marshal for the prevention of fire or for the protection of life and property against fire or panic.

The State Fire Marshal is required as per passed in Senate Bill 85. Public resources: omnibus trailer bill. (2019-2020) to provide clarifying language regarding Specified State Occupied Occupancies. The regulations adopted by the State Fire Marshal will meet the intent of Health and Safety Code Sections 13208 and 13146.

SPECIFIC PURPOSE AND RATIONALE

- 1. Problem being addressed:** With the passage of Senate Bill 85. Public resources: omnibus trailer bill. (2019-2020), the Office of the State Fire Marshal is required to provide clarifying language regarding Specified State Occupied Occupancies.
- 2. Anticipated benefits from this regulatory action:** This regulatory proposal benefits California and stakeholders by clarifying and updating the safety requirements for Specified State Occupied Occupancies.
- 3. Factual Basis/Rationale:** The Office of the State Fire Marshal is required to clarify and define Specified State Occupied Occupancies as per Senate Bill 85. Public resources: omnibus trailer bill. (2019-2020).

Item SFM 1-5

Chapter 1, Administration, Division I, California Administration, Section 1.11.4.4 Fire Clearance Preinspection

Section 1.11.4.4 and 1.11.4.5 are updated to meet the Health & Safety Code Section 13244. The statute was changes for the fees that are charges for inspections. These changes were made in other parts of Title 24, but Part 9 was missed. This will correlate with the other parts of Title 24.

Item 1-6

**Chapter 1, Administration, Division I, California Administration, Section 1.11.4.5
Care Facilities**

Section 1.11.4.4 and 1.11.4.5 are updated to meet the Health & Safety Code Section 13244. The statute was changes for the fees that are charges for inspections. This changes were made in other parts of Title 24, but Part 9 was missed. This will correlate with the other parts of Title 24.

Item SFM 1-7

**Chapter 1, Administration, Division I, California Administration, Section 1.11.6
Certificate of Occupancy**

The SFM is proposing to correlated the requirements for certificate of occupancy with the regulations in the California Building Code. This is an existing amendment that has not been maintained and overlooked in the California Fire Code for several editions. The California Building Code is the appropriate part of the California Building Standards Code for the issuance of a certificate of occupancy from the authority having jurisdiction.

Item 1-8

**Chapter 1, Administration, Division I, California Administration, Section 1.11.7
Temporary Structures and Uses**

The proposal is an editorial correction to the referenced Section number in the California Building Code.

**CHAPTER 1
ADMINISTRATION**

**DIVISION II
ADMINISTRATION**

Item 1-9

Chapter 1, Administration, Division II, Administration, Section 1.11.7

The SFM proposes to only adopt Chapter 1, Division II Sections 102.1 – 102.5, 102.7-102.12, 104.2, 104.5, 104.8 – 104.8.2, 104.11-104.11.1, 105.1 – 105.2.2, 105.2.4, 105.3, 105.3.3 –105.5.9, Table 105.5.9, 105.5.11, Table 105.5.11, 105.5.12- 105.5.13
And carry forward existing amendments.

Item 1-10

**Chapter 1, Scope and Administration, Division II, Administration, Section 105.5.14,
Energy Storage Systems**

The SFM proposes to adopt model code Section 105.5.14 and repeal Section 105.6.52.

Item 1-11

**Chapter 1, Scope and Administration, Division II, Administration, Section 105
Permits, Sections 105.5.15- 105.5.19, 105.5.22, Table 105.5.22, 105.5.23 - 105.5.31**

The SFM proposes to only adopt Chapter 1, Division II Sections 105.5.15- 105.5.19, 105.5.22, Table 105.5.22, 105.5.23 - 105.5.31 and carry forward existing amendments.

Item 1-12

**Chapter 1, Scope and Administration, Division II, Administration, Section 105
Permits, Section 105.6.16.1 through Section 105.5.32**

The SFM proposes to renumber Section 105.6.16.1 through Section 105.5.32. Delete model code language for 105.5.32. The SFM will not adopt Section 105.5.32.

Item 1-13

**Chapter 1, Scope and Administration, Division II, Administration, Section 105
Permits, Sections 105.5.33, 105.5.38, 105.5.40, 105.5.42, 105.5.47, 105.5.49, 105.5.53**

The SFM proposes to adopt Sections 105.5.33, 105.5.38, 105.5.40, 105.5.42, 105.5.47, 105.5.49, 105.5.53, and carry forward existing amendments.

The SFM proposes to adopt and renumber Section 105.6.51 to Section 105.5.53, and carry forward existing amendments.

Item 1-14

**Chapter 1, Scope and Administration, Division II, Administration, Section 105
Permits, Sections 105.6- 105.6.24**

The SFM proposes to adopt Sections 105.6- 105.6.24 and carry forward existing amendments with modifications as shown below.

Item 1-15

**Chapter 1, Scope and Administration, Division II, Administration, Section 105
Permits, Section 105.6.2 Compressed gases**

The SFM proposes to repeal amendments to Section 105.6.2. Replace with model code language and adopt the section.

Item 1-16

**Chapter 1, Scope and Administration, Division II, Administration, Section 105
Permits, Section 105.6.5 Energy storage systems**

The SFM proposes to repeal California amendment Section 105.7.2 and replace with

Section 105.6.5 and adopt the section.

Item 1-17

Chapter 1, Scope and Administration, Division II, Administration, Section 105.6.52

The SFM proposes to add 105.6.52. Lithium-ion and lithium metal batteries can create challenging fire hazards. This proposal includes requirements that regulate the collection and storage of these batteries so as to reduce the probability of an event and mitigate any adverse impact on the affected facility and public safety. The requirements are intended to cover all types of lithium-ion and lithium metal batteries (e.g., new, used, waste, refurbished), used batteries being collected for recycling or disposal, and batteries at recycling and disposal facilities. Proposed Section 322 will detail the requirements.

Item 1-18

Chapter 1, Scope and Administration, Division II, Administration, Section 105.6.53

The SFM proposes to renumber Section 105.5.51 to 105.6.53.

Item 1-19

**Chapter 1, Scope and Administration, Division II, Administration, Section 105.7.3
Reserved**

The SFM proposes to repeal and delete California amendment Section 105.7.3.

Item 1-20

**Chapter 1, Scope and Administration, Division II, Administration, Section 106
Construction Documents, Sections 106, 108.2- 108.4, 112.1- 112.3.4, 113, 114**

The SFM proposes to adopt Sections 106, 108.2- 108.4, 112.1- 112.3.4, 113, 114

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

**CHAPTER 2
DEFINITIONS**

Item 2-1

Chapter 2, Section 202 General Definitions

The SFM proposes to adopt Chapter 2 and carry forward existing amendments with the following modifications as listed below.

Item 2-2

Chapter 2, Section 202 General Definitions, Additive Manufacturing

The SFM proposes to make an editorial correction. The definition for "industrial additive manufacturing" and "nonindustrial additive manufacturing" both state that the classification applies if the 3D printer creates a hazardous (classified) location. However, the occurrence of a hazardous (classified) location is intended to only apply to industrial additive manufacturing processes. This proposal simply adds the "not" into the definition of nonindustrial additive manufacturing to correct this error.

Cost Impact: The code change proposal will not increase or decrease the cost of construction. This proposal simply corrects the application of the definition and will not affect the cost of construction.

Item 2-3

Chapter 2, Section 202 General Definitions, Atrium

The proposal is to correlate with the revised definition in the California Building Code. The first printing of the International Fire Code missed the change that was made in the International Building Code (IBC). Technical requirements were removed from the definition. The definition is much more simple than the previous one and defines what an atrium is. In addition, a change was made to the language in IBC Section 712.1.7 to bring some of the language from the previous definition into the actual code requirement and revise the language to be easier to understand. There is no intent to change any technical requirements. There is a lot of confusion around a two-story atrium since the definition starts out saying "An opening connecting two or more stories". Many people confuse this requirement with openings between two stories in IBC Section 712.1.9. The two-story language has been removed from the definition. The intent was clarified in IBC Section 712.1.7 by saying that two-story atriums in Groups I-2 and I-3 Occupancies and three-story atriums in all other occupancies must comply with IBC Section 404. So, if you have an opening just between two stories in other than Groups 1-2 or I-3, IBC Section 712.1.9 would apply. If the opening connects three or more stories, it would then be an atrium and need to comply with Section 404. We also revised the language from "In other than Group H Occupancies". to an exception stating that the atrium provisions do not apply to Group H Occupancies. The definition also had an exception within it for balconies and similar areas in assembly occupancies. This exception was relocated into an exception in IBC Section 712.1.7 to maintain that allowance of balconies and mezzanines in assembly uses.

Cost Impact: The net effect of the public comment and code change proposal will not increase or decrease the cost of construction. This is just a clarification of language.

Item 2-4

Chapter 2, Section 202 General Definitions, Battery Types

The SFM proposes to repeal California amendments and replace with model code language.

Item 2-5

Chapter 2, Section 202 General Definitions, Capacitor Energy Storage System

The SFM proposes to adopt model code language for Capacitor Energy Storage System. This was mistakenly deleted in the 2019 intervening code cycle. It is part of the Energy Storage System Chapter 12 re-write.

Item 2-6

Chapter 2, Section 202 General Definitions, Carbon Dioxide Enrichment System

The SFM proposes to repeal California amendment and replace with model code language.

Item 2-7

Chapter 2, Section 202 General Definitions, Child Care

The SFM is proposing a definition for Child Care.

Current regulation as it is printed in California Code of Regulations (CCR) Title 22. The Department of Social Services (DSS) has for approximately 10 years been transitioning from the term “Day Care” to “Child Care”. The profession of child care has evolved into a more inclusive type of care that can include early learning and child development. The caring aspect of the facilities are more emphasized. The State fire Marshal work group is including the definition to be more consistent between regulations.

CCR 22 Section 101152 c (7) “Child Care Center” or “Day Care Center” (or “center”) means any child care facility of any capacity, other than a family child care home as defined in Section 102352f. (1), in which less than 24-hour per day non-medical care and supervision are provided to children in a group setting. The term “Child Care Center” supersedes the term “Day Care Center” as used in previous regulations.

Here is the link: [Title 22 regulations](#)

Item 2-8

Chapter 2, Section 202 General Definitions, Day-Care

The SFM proposes to amend the definition of Day-Care. The occupancy of day-care is for a limited time during any day. The code is clear that it can be any time of the day, it was not described in the definition. This is an editorial change, to have consistency with the Social Service regulations in Title 22 and the current regulations.

Item 2-9

Chapter 2, Section 202 General Definitions, Energy Storage Management Systems

The SFM proposes to repeal the California amendments and replace with model code language.

Item 2-10

Chapter 2, Section 202 General Definitions, Energy Storage System (ESS)

The SFM proposes to repeal California amendments and replace with model code language.

Item 2-11

Chapter 2, Section 202 General Definitions, Energy Storage System, Electrochemical

The SFM proposes to repeal California amendments and replace with model code language.

Item 2-12

Chapter 2, Section 202 General Definitions, Energy Storage System, Mobile

The SFM proposes to repeal California amendments and replace with model code language.

Item 2-13

Chapter 2, Section 202 General Definitions, Energy Storage System, Stationary

The SFM proposes to repeal California amendments and replace with model code language.

Item 2-14

Chapter 2, Section 202 General Definitions, Energy Storage System, Walk-In Unit

The SFM proposes to repeal California amendments and replace with model code language.

Item 2-15

Chapter 2, Section 202 General Definitions, Energy Storage System Cabinet

The SFM proposes to repeal California amendments and replace with model code language. A common convention in the code when discussing a piece of listed equipment is to state that it is listed before specifying the listing organization and this edit conforms to that convention.

Cost Impact: The code change proposal will not increase or decrease the cost of construction. This code change proposal is solely an editorial change to conform with how other provisions are written so it won't affect cost.

Item 2-16

Chapter 2, Section 202 General Definitions, Energy Storage System Commissioning

The SFM proposes to repeal California amendments and replace with model code language.

Item 2-17

Chapter 2, Section 202 General Definitions, Energy Storage System Decommissioning

The SFM proposes to repeal California amendments and replace with model code language.

Item 2-18

Chapter 2, Section 202 General Definitions, Inflatable Amusement Device

The SFM proposes a new definition.

This proposal introduces basic safety requirements for inflatable amusement devices also known as “bounce houses”. There have been numerous reported incidents of accidents and injuries involving these devices caused by weather events such as sustained or wind gusts and/or improper set-up, anchorage or use where the “bounce house” is uplifted, carried away and/or overturned with children or adults inside. A proposal to regulate these devices was presented in the last cycle but there was concern regarding the difference between outdoors and indoors and permits. At the time ASTM F2374 was not written in a way that it could be referenced but that has changed now and it is in good shape (including all mandatory language). No discussion of either location or permits is included in this proposal. This proposal is much more compact than the earlier one. Chapter scoping section is modified to reference proposed new section. This new section simply adds basic fire and electrical safety requirements for the construction, placement and operation of portable inflatable amusement devices. The section addresses safety requirements for both outdoor and indoor use of these devices. The electrical safety section simply refers to an existing code section. A definition for inflatable amusement devices is also included to correlate the type of devices covered by these new CFC code requirements. The information regarding a certificate and affidavit refers to the existing sections for tents.

Cost Impact: The code change proposal will increase the cost of construction. This will increase the cost of construction (compliance) because products that are unregulated will now require to undergo some fire testing.

Item 2-19

Chapter 2, Section 202 General Definitions, Large-Scale Fire Testing

The SFM proposes a new definition.

The definition of what large-scale testing means is a growing problem for the installation of Energy Storage Systems. An explosion in 2019 in Arizona resulted in a significant event, a deflagration and firefighters seriously injured. The Energy Storage System (ESS) compliance world have correctly pointed out that the installation would not have complied with either 2018 fire codes, even more so NFPA 855 and the 2021 IFC. We used the 2018 fire codes and NFPA 855 as benchmarks on safety.

UL 9540A was developed to ensure there was a standard method to conduct the required large-scale fire test, not to create a concept similar to UL 1973 that provides an out.

Many of us were of the opinion that if a system is installed in accordance with the 2018 fire codes or NFPA 855 a reasonable level of safety has been provided and we have addressed what happened in Arizona. But is inadequate large-scale fire test reports are being applied where there wasn't a large-scale fire when the cells are capable of thermal runaway, that reasonable level of safety is not occurring and the language and intent of the fire codes and NFPA 855 are not being complied with. We are still installing potential Arizona hazards.

The definition in NFPA 855 are clear. The proposed language brings the definition from NFPA 855 into the Fire Code for the clear intent of the meaning used within the code regulations for Chapter 12 for ESS.

Cost Impact: There will be no increase or decrease in cost, as the regulations are existing in code.

Item 2-20

Chapter 2, Section 202 General Definitions, Mobile Food Preparation Vehicles

The SFM proposes delete the definition of Mobile Food Preparation Vehicles. In Department discussion we agree there are concerns about conflicting requirements between [Title 25 special purpose commercial modular \(SPCM\) regulations](#) and CFC Sections 105.6.30, 319, and other reference requirements for "mobile food preparation vehicles".

[Health and Safety Code Section 18025](#) and [Title 25 California Code of Regulations Section 4525\(b\)](#) direct Housing and Community Development (HCD) as the construction (and fire safety) authority for the kitchen of an SPCM. Prescriptive construction requirements can be found here [T25CCR Sections 4526-4534](#).

Health and Safety Code (HSC) Section [Title 25 California Code of Regulations Section 4525\(e\)](#) provides statutory direction for (operational) permitting through [California Retail Food Code HSC Division 104 Part 7 Chapter 10](#)) administered by the health department,

the local authority for the retailing and preparation of food for their [Mobile Food Facility](#) (SPCM MFF).

By these concerns:

- 1) HCD Manufactured Housing Program recommends striking “mobile food preparation vehicles” language from fire (operational) permitting requirements of [CFC 105.6.30](#), that suggests compliance with the letter of these mobile food preparation vehicles, potentially in conflict with regulatory requirements for SPCM MFF.
- 2) HCD also recommends striking “MOBILE FOOD PREPARATION VEHICLES” from Definitions [CFC Section 202](#). MFFs defined by HSC includes more than those vehicles “generating smoke or grease laden vapors”. Statutory definition is provided [here](#) and in [regulations](#).
- 3) HCD also recommends striking “mobile food preparation vehicles” language from Chapter 3 User note, that suggests compliance with the letter of these mobile food preparation vehicles, potentially in conflict with regulatory requirements for SPCM MFF.
- 4) HCD also recommends deleting CFC Section 319 requirements throughout. Exiting, electrical, mechanical, fuel gas, plumbing, and other constructed and HCD-permitted requirements are taken from [referenced regulations above](#) and T24 Parts 2, 3, 4, & 5.
- 5) I can work with your SFM code writers if you feel HCD and local health referenced authority would be useful information for Part 9.

HCD is also in agreement we would expect fire marshals to have jurisdiction over safety inspections (especially for fire protection equipment and systems’ inspections, testing and maintenance), for participating SPCM MFF during events requiring CFC 105.6 operational permits (such as Carnivals and Fairs, Exhibits and Trade Shows, or local codified “Special Events” ...).

Item 2-21

Chapter 2, Section 202 General Definitions, Business Group B

The SFM proposes to add the descriptive title for I-2.1 occupancies classification. The SFM proposes to delete model code language for higher education laboratories, it is not used in California and is in conflict with California’s Group L occupancy classification.

Item 2-22

Chapter 2, Section 202 General Definitions, Group E, day care facilities

The SFM proposes to amend the definition for day care facilities. SFM is proposing to delete the amend version of 305.2 and adopt the IBC model language. The SFM is also maintaining the exception for the R-3 occupancies with are the Family Day Cares which are mandated by Health & Safety Code section 1596.955, 1596.956

The code was silent on the number of infants that could be included in a Group E Day Care. This created confusion for the building and fire officials. This proposal fills in that gap. It would allow up to five infants and toddlers in the Group E Day Care. This number of infants and toddlers corresponds with CBC 305.2.2 that allows up to five children in any occupancy, without changing the occupancy classification.

The change to include children at the age of 3, Child Care facilities are licensed by the Department of Social Services. The license categories of children are; infants – age 0 to 24 months, toddlers – 18 to 36 months and preschool, etc. The intent of the regulations is to provide a level of safety to the children that are non-ambulatory or unable to self-evacuate in an emergency. The conflict is that there is an overlap of the definition of infants and toddlers. The Office of the State Fire Marshal conducted a Child Care Workgroup to address issues within the current regulations. The IBC set the age at 2 ½. Historically the SFM modified to 2 to align with the definition of infant in California. The workgroup recommended the legal definition of toddlers from the Health & Safety Code Section 1596.55 and to include them in the regulations to remove the conflict in the categories. This proposal will also remove the conflict with the Social Service's license of Child Care Centers. This will allow the building and fire code officials to classify the occupancy of I-4 or E based on Social Services licensing categories. This will be determined by the age of the children within the child care center.

The intent of this code sections is not retro-active. Existing centers licensed under previous regulations will be inspected to the regulations that were in place at that time. When there is a change in the licensing then the new current regulations will be applied.

Item 2-23

Chapter 2, Section 202 General Definitions, Factory Industrial F-1 Moderate-hazard occupancy

The SFM proposes to repeal California amendments and replace with model code language.

Item 2-24

Chapter 2, Section 202 General Definitions, Institutional Group I-2.1

The SFM proposes to modify the California amendment for Group I-2.1. The use of ambulatory health care facility is incorrect. Ambulatory health care facility would be classified as an occupancy Group B.

Item 2-25

Chapter 2, Section 202 General Definitions, Institutional Group I-4, day care facilities

The SFM proposes to amend the definition for Group I-4. SFM is proposing to delete subsections of Group I-4 for classification as a Group E and any Special Provisions. Clarification. Current regulation as it is printed in Title 22. The Department of Social Services has for approximately 10 years been transitioning from the term Day Care to Child Care. The profession of child care has evolved into a more inclusive type of care that can include early learning and child development. The caring aspect of the facilities are more emphasized. The work group is including the definition to be more consistent between regulations.

The proposal to delete and remove the model code language and the California amendments in this section are conflicting with other section (305.2) in the code and California statute. There has been confusion between the Group E day cares and the Group I-4 day cares. Currently this exception for Group I-4 daycares conflicts with the definition of Group E as found in section 305.2. The workgroup found the regulations proposals in sections 305.2 and 308.5, 452 will provide clear guidance by separating the child care centers, based on the children age group. This is based on the infants and toddler's inability to self-evacuate. This proposal assures the current level of protection for infant and toddler care by clearly defining these occupancies as Group I-4.

Item 2-26

Chapter 2, Section 202 General Definitions, Residential Group R-2

The SFM proposes to amend the definition for Group R-2. This change is to meet SB 234. Small and Large Family Day Cares can operate in R-2 occupancies when they comply with the regulations. This change is to add the day cares to the list of occupancies under R-2 and comply with the statute, Health & Safety Code section 1597.46.

Item 2-27

Chapter 2, Section 202 General Definitions, Photovoltaic (PV) Panel System, Ground-Mounted

The SFM proposes a new definition. Ground-mounted photovoltaic panel systems are referenced in the 2021 I-codes, in IBC Sections 1607.4.4 and 3111.3.5; in IRC Section R324.7; and in IFC Section 1205.5.

Item 2-28

Chapter 2, Section 202 General Definitions, Photovoltaic (PV) Support Structure Elevated

The SFM proposes a new definition. Most PV panels in the marketplace have been fire tested and assigned a "type rating" in accordance with UL 1703. However, some PV

panels might not have that fire testing, and could be marked “not fire rated.” This proposal clarifies that PV panels marked “not fire rated” cannot be used on elevated/overhead PV structures that could have people or cars beneath them, with or without a full roof assembly. Where elevated PV structures have PV panels mounted over open-grid framing with no roof deck or sheathing cannot achieve a “fire classification” because there is no combustible roof covering to ignite in a UL 2703 spread-of-flame or burning brand test. Therefore, it is sufficient protection to install only type-rated modules. The same is true when PV panels are installed directly over noncombustible metal sheathing without a stand-off mounting system. Where elevated PV structures have a roof assembly and PV panels are rooftop mounted over that roof assembly, then those structures

Item 2-29

Chapter 2, Section 202 General Definitions, Smoke Compartment

The SFM proposes errata to correlate with the California Building Code.

Modification of the definition is better describing the intent and means of defining the smoke compartment. It further clarifies that the separation is to occur between interior areas of the building and not require a roof or exterior wall to meet the requirements of a smoke barrier. Proposed modifications to IBC Section 709.4.1 reflect that smoke barriers used for creating smoke compartments and separating them from other interior areas of the building, is not accomplished by just walls, but horizontal assemblies may also be required. The use of vertical and horizontal components is clearly noted in Sections 709.1 and 711.2.4.4. Changing that smoke barrier walls can “begin and end” at another smoke barrier wall, instead of just outside wall to outside wall provides an increase design flexibility in all types of care facilities. It also is comparable to the language for separation of areas of refuge and elevator lobbies in Section 709.4.2.

Item 2-30

Chapter 2, Section 202 General Definitions, Toddler

The SFM proposes a new definition of Toddler.

Day Care facilities are licensed by the Department of Social Services. The classifications of the children are infants – age 0 to 24 months, toddlers – 18 to 36 months and preschool, etc. The intent of the regulations is to provide a level of safety to the children that are non-ambulatory or unable to self-evacuate in an emergency. The conflict is that there is an overlap of the definition of infants and toddlers. The Office of the State Fire Marshal conducted a Day Care Workgroup to address issues with the current regulations. The workgroup recommended the legal definition of toddlers from the Health & Safety Code Section 1596.55 and to include them in the regulations to remove the conflict in the definitions. This proposal will also remove the conflict with the Social Service’s classification of daycares. This will allow the building and fire code officials to classify the

occupancy of I-4 or E based on Social Services classifications for licensing. This will be determined by the age of the children within the child care facility.

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

CHAPTER 3 GENERAL REGULATIONS

Item 3-1

Chapter 3, General Requirements

[The SFM proposes to adopt Chapter 3, Sections 301, 304, 308.1.1, 308.5, 312, 313, 314, 315, 316, 317, 320, 321, 322 and carry forward existing amendments.]

Item 3-2

Chapter 3, General Requirements, User Note

The SFM proposes to delete the reference to mobile food vehicles. In Department discussion we agree there are concerns about conflicting requirements between [Title 25 special purpose commercial modular \(SPCM\) regulations](#) and CFC Sections 105.6.30, 319, and other reference requirements for “mobile food preparation vehicles”.

[Health and Safety Code Section 18025](#) and [Title 25 California Code of Regulations Section 4525\(b\)](#) direct Housing and Community Development (HCD) as the construction (and fire safety) authority for the kitchen of an SPCM. Prescriptive construction requirements can be found here [T25CCR Sections 4526-4534](#).

Health and Safety Code (HSC) Section [Title 25 California Code of Regulations Section 4525\(e\)](#) provides statutory direction for (operational) permitting through [California Retail Food Code HSC Division 104 Part 7 Chapter 10](#) administered by the health department, the local authority for the retailing and preparation of food for their [Mobile Food Facility \(SPCM MFF\)](#).

By these concerns:

- 1) HCD Manufactured Housing Program recommends striking “mobile food preparation vehicles” language from fire (operational) permitting requirements of

[CFC 105.6.30](#), that suggests compliance with the letter of these mobile food preparation vehicles, potentially in conflict with regulatory requirements for SPCM MFF.

- 2) HCD also recommends striking “MOBILE FOOD PREPARATION VEHICLES” from Definitions [CFC Section 202](#). MFFs defined by HSC includes more than those vehicles “generating smoke or grease laden vapors”. Statutory definition is provided [here](#) and in [regulations](#).
- 3) HCD also recommends striking “mobile food preparation vehicles” language from Chapter 3 User note, that suggests compliance with the letter of these mobile food preparation vehicles, potentially in conflict with regulatory requirements for SPCM MFF.
- 4) HCD also recommends deleting CFC Section 319 requirements throughout. Exiting, electrical, mechanical, fuel gas, plumbing, and other constructed and HCD-permitted requirements are taken from [referenced regulations above](#) and T24 Parts 2, 3, 4, & 5.
- 5) I can work with your SFM code writers if you feel HCD and local health referenced authority would be useful information for Part 9.

HCD is also in agreement we would expect fire marshals to have jurisdiction over safety inspections (especially for fire protection equipment and systems’ inspections, testing and maintenance), for participating SPCM MFF during events requiring CFC 105.6 operational permits (such as Carnivals and Fairs, Exhibits and Trade Shows, or local codified “Special Events” ...).

SECTION 301 GENERAL

Item 3-3

Chapter 3, General Requirements, Section 301.2 Permits

The SFM proposes to delete the reference to mobile food vehicles. The SFM proposes to delete the reference to mobile food vehicles. In Department discussion we agree there are concerns about conflicting requirements between [Title 25 special purpose commercial modular \(SPCM\) regulations](#) and CFC Sections 105.6.30, 319, and other reference requirements for “mobile food preparation vehicles”.

[Health and Safety Code Section 18025](#) and [Title 25 California Code of Regulations Section 4525\(b\)](#) direct Housing and Community Development (HCD) as the construction (and fire safety) authority for the kitchen of an SPCM. Prescriptive construction requirements can be found here [T25CCR Sections 4526-4534](#).

Health and Safety Code (HSC) Section [Title 25 California Code of Regulations Section 4525\(e\)](#) provides statutory direction for (operational) permitting through [California Retail Food Code HSC Division 104 Part 7 Chapter 10](#) administered by the health department, the local authority for the retailing and preparation of food for their [Mobile Food Facility](#) (SPCM MFF).

By these concerns:

- 1) HCD Manufactured Housing Program recommends striking “mobile food preparation vehicles” language from fire (operational) permitting requirements of [CFC 105.6.30](#), that suggests compliance with the letter of these mobile food preparation vehicles, potentially in conflict with regulatory requirements for SPCM MFF.
- 2) HCD also recommends striking “MOBILE FOOD PREPARATION VEHICLES” from Definitions [CFC Section 202](#). MFFs defined by HSC includes more than those vehicles “generating smoke or grease laden vapors”. Statutory definition is provided [here](#) and in [regulations](#).
- 3) HCD also recommends striking “mobile food preparation vehicles” language from Chapter 3 User note, that suggests compliance with the letter of these mobile food preparation vehicles, potentially in conflict with regulatory requirements for SPCM MFF.
- 4) HCD also recommends deleting CFC Section 319 requirements throughout. Exiting, electrical, mechanical, fuel gas, plumbing, and other constructed and HCD-permitted requirements are taken from [referenced regulations above](#) and T24 Parts 2, 3, 4, & 5.
- 5) I can work with your SFM code writers if you feel HCD and local health referenced authority would be useful information for Part 9.

HCD is also in agreement we would expect fire marshals to have jurisdiction over safety inspections (especially for fire protection equipment and systems’ inspections, testing and maintenance), for participating SPCM MFF during events requiring CFC 105.6 operational permits (such as Carnivals and Fairs, Exhibits and Trade Shows, or local codified “Special Events” ...).

SECTION 315 GENERAL STORAGE

Item 3-4

Chapter 3, General Requirements, Section 315 General Storage, Table 315.7.6(1) Separation Distance Between Wood Pallet Stacks and Buildings

The SFM proposes to repeal and replace with model code language.

SECTION 310 SMOKING

Item 3-5

Chapter 3, General Requirements, Section 310 Smoking, Section 310.2 Prohibited Areas

The SFM proposes to adopt Section 310.2 as amended and carry forward existing amendments to Group I-2 occupancies. Showing the strike out language is a reminder for publication of the existing amendments.

SECTION 319 ~~MOBILE FOOD PREPARATION VEHICLES~~ RESERVED

Item 3-6

Chapter 3, General Requirements, Section 319 Mobile Food Preparation Vehicles Sections 319.1 through 319.10.3

The SFM proposes to delete and remove Section 319. In Department discussion we agree there are concerns about conflicting requirements between [Title 25 special purpose commercial modular \(SPCM\) regulations](#) and CFC Sections 105.6.30, 319, and other reference requirements for “mobile food preparation vehicles”.

[Health and Safety Code Section 18025](#) and [Title 25 California Code of Regulations Section 4525\(b\)](#) direct Housing and Community Development (HCD) as the construction (and fire safety) authority for the kitchen of an SPCM. Prescriptive construction requirements can be found here [T25CCR Sections 4526-4534](#).

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By these concerns:

- 1) HCD Manufactured Housing Program recommends striking “mobile food preparation vehicles” language from fire (operational) permitting requirements of [CFC 105.6.30](#), that suggests compliance with the letter of these mobile food preparation vehicles, potentially in conflict with regulatory requirements for SPCM MFF.
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vehicles “generating smoke or grease laden vapors”. Statutory definition is provided [here](#) and in [regulations](#).

- 3) HCD also recommends striking “mobile food preparation vehicles” language from Chapter 3 User note, that suggests compliance with the letter of these mobile food preparation vehicles, potentially in conflict with regulatory requirements for SPCM MFF.
- 4) HCD also recommends deleting CFC Section 319 requirements throughout. Exiting, electrical, mechanical, fuel gas, plumbing, and other constructed and HCD-permitted requirements are taken from [referenced regulations above](#) and T24 Parts 2, 3, 4, & 5.
- 5) I can work with your SFM code writers if you feel HCD and local health referenced authority would be useful information for Part 9.

HCD is also in agreement we would expect fire marshals to have jurisdiction over safety inspections (especially for fire protection equipment and systems’ inspections, testing and maintenance), for participating SPCM MFF during events requiring CFC 105.6 operational permits (such as Carnivals and Fairs, Exhibits and Trade Shows, or local codified “Special Events” ...).

SECTION 322

Storage of Lithium-ion and Lithium Metal Batteries

Item 3-7

Chapter 3, General Requirements, Section 322 Storage of Lithium-Ion and Lithium Metal Batteries

The SFM proposes a new section for requirements for the storage of Lithium-ion and Lithium metal batteries. Lithium-ion and lithium metal batteries can create challenging fire hazards. This proposal includes requirements that regulate the collection and storage of these batteries so as to reduce the probability of an event and mitigate any adverse impact on the affected facility and public safety. The requirements are intended to cover all types of lithium-ion and lithium metal batteries (e.g., new, used, waste, refurbished), used batteries being collected for recycling or disposal, and batteries at recycling and disposal facilities. Details on the proposal are as follows:

Section 322.1 identifies the threshold quantities of batteries that are regulated by Section 322. As noted in the exceptions, it is not the intent to cover lithium-ion and lithium metal batteries in products, devices or vehicles, in small retail packaging, or the temporary storage of batteries at manufacturing facilities or in transit.

Section 322.3 requires a fire safety and evacuation plan to be provided in accordance with a new section 403.10.6

Section 322.4.1 includes requirements for limited indoor battery storage in containers. This is primarily intended to cover the containers used to collect used batteries for recycling or disposal. These types of containers can be found in many establishments, including mercantile and other occupancies. There is a limitation for an individual container to not exceed 7.5 cubic feet, which is approximately the size of a 55-gallon barrel. A maximum 15 cubic feet of storage (two 55 gallon barrels) are allowed in this code application. Indoor storage in excess of these values will be regulated in accordance with Section 322.4.2, and will require, among other things, an operational permit. Indoor storage areas other than the limited storage applications covered by 322.4.1 are required to comply with all applicable requirements in 322.4.2.1 through 322.4.2.6.

Section 322.4.2.6 recognizes that lithium-ion batteries not exceeding 30% state of charge (SOC) have been shown to be less likely to undergo thermal runaway or propagate than fully charged batteries, and the 30% SOC level is recognized by the U.S. Department of Transportation (DOT) and other transport agencies (e.g., Transport Canada, International Civil Aviation Organization) as providing an additional level of safety for shipping by air. This section allows the fire code official to waive specific protection requirements based on approval of the procedures used for limiting and verifying that the state of charge will not exceed 30 percent. It is assumed that the procedures used to verify the SOC can be periodically checked as part of the operational permit on the operation.

Section 322.4.3 includes requirements covering the outdoor storage of lithium-ion or lithium metal batteries. It includes criteria for:

1. Location of storage in proximity to exposures
2. Storage area size limits and separation
3. Fire detection requirements.

A new Section 403.10.6 is provided which includes requirements for providing a fire safety plan for battery storage.

Cost Impact: The code change proposal will increase the cost of construction. There currently are no specific requirements in the IFC that regulate the storage of lithium-ion and lithium-metal batteries. The proposal has the potential to increase the costs associated with the collection and storage of these batteries.

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

CHAPTER 4 EMERGENCY PLANNING AND PREPAREDNESS

Item 4-1

Chapter 4, Emergency Planning and Preparedness

[The SFM proposes to adopt Chapter 4, Sections 401, 402, 403.2, 403.4 – 403.4.4, 403.6-403.7, 403.9-409.3.4, 403.10.2-403.10.6.1, 403.13-403.13.3, 404.1, 404.5-404.6.6, 407 and carry forward existing amendments.]

**SECTION 403
EMERGENCY PREPAREDNESS REQUIREMENTS**

Item 4-2

Chapter 4, Emergency Planning and Preparedness, Section 403 Emergency Preparedness Requirements

The SFM proposes to add sections, which will change the range of Section number that will have applicable general requirements.

Item 4-3

Chapter 4, Emergency Planning and Preparedness, Section 403 Emergency Preparedness Requirements

[The SFM proposes to renumber sections, based on changes in the model code.]

Item 4-4

Chapter 4, Emergency Planning and Preparedness, Section 403 Emergency Preparedness Requirements

The SFM proposes to add sections, which will change the range of Section numbers that will have applicable special use requirements.

Item 4-5

Chapter 4, Emergency Planning and Preparedness, Section 403 Emergency Preparedness Requirements, Section 403.10.6 and 403.10.6.1

The SFM proposes Section 403.10.6 and Section 403.10.6.1 for storage of batteries. Lithium-ion and lithium batteries have been a contributing factor in a growing number of fire incidents for several years, and they are being used in an ever-increasing number of products and applications. This proposal requires a fire safety and evacuation plan to be prepared and maintained for occupancies involving battery related activities, and storage, handling and use. Emergency action plans and early mitigation are key elements in providing for occupant and facility safety and for reducing the size of an event. 403.10.6 identifies a broad range of occupancies, use and activities that involve lithium-ion and lithium metal batteries that have the potential of a large event due to a thermal runaway.

The exceptions to 403.10.6 are designed to not require a fire safety and evacuation plan for the storage and merchandizing of products containing lithium-ion or lithium metal batteries, or the storage and merchandizing of small batteries in retail packaging. An exception is included for personal use vehicle and devices in detached one- and two-family dwellings and townhouses. These exceptions are similar to those in other proposals this cycle.

At 403.10.6.1 the fire safety and evacuation plan must take into consideration mitigation planning for a thermal runaway event involving the lithium-ion and lithium metal batteries. Early mitigation is a key to preventing events and controlling the size of event should one occur.

Cost Impact: The code change proposal will not increase or decrease the cost of construction. There will be an operational cost related to writing and maintaining the plan and employee training. However, many of these occupancies are already required to maintain fire response plans and provide employee training.

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

CHAPTER 5 FIRE SERVICE FEATURES

Item 5-1

Chapter 5, Fire Service Features

[The SFM proposes to adopt Chapter 5 and carry forward existing amendments.]

SECTION 508 FIRE COMMAND CENTER

Item 5-2

Chapter 5, Fire Service Features, Section 508.1.5 Storage

The SFM proposes reorganize existing amendments from 508.1.6 Item 19 to a more appropriate location in 508.1.5.

Item 5-3

Chapter 5, Fire Service Features, Section 508.1.7.1 Ventilation

[The SFM proposes renumber section 508.1.7 based on model code changes.]

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

**CHAPTER 6
BUILDING SERVICES AND SYSTEMS**

Item 6-1

Chapter 6, Building Services And Systems

[The SFM proposes to adopt Chapter 6 and carry forward existing amendments as modified below.]

**SECTION 604
ELEVATOR OPERATION, MAINTENANCE AND
FIRE SERVICE KEYS**

Item 6-2

Chapter 6, Building Services And Systems, Section 603.1.2 Healthcare Facilities

[The SFM proposes to add a reference to The California Electrical Code.]

Item 6-3

Chapter 6, Building Services And Systems, Section 603.4 working space and clearances

[The SFM proposes errata.]

Item 6-4

Chapter 6, Building Services And Systems, Section 603.5.1.1

[The SFM proposes to delete references to any Group I-2 conditions.]

Item 6-5

Chapter 6, Building Services And Systems, Section 604.3.5 Emergency Hoistway Venting

[The SFM proposes renumber section based on model code changes.]

Item 6-6

Chapter 6, Building Services And Systems, Section 604.5.3 Storage within elevator lobbies

[The SFM proposes repeal California amendment and replace with model code language.]

Item 6-7

Chapter 6, Building Services And Systems, Section 604.6.3 Shunt Trip

[The SFM proposes renumber section number based on model code changes.]

Item 6-8

Chapter 6, Building Services And Systems, Section 604.6.4 through 604.6.4.4 Emergency Hoist-way Venting

[The SFM proposes renumber section number based on model code changes.]

**SECTION 605
FUEL-FIRED APPLIANCES**

Item 6-9

Chapter 6, Building Services And Systems, Section 605.7 Incinerators

[The SFM proposes update the NFPA 82 standard to the most current edition.]

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

**CHAPTER 7
FIRE AND SMOKE PROTECTION FEATURES**

Item 7-1

Chapter 7, Fire and Smoke Protection Features

[The SFM proposes to adopt Chapter 7 and carry forward existing amendments.]

**SECTION 701
GENERAL**

Item 7-2

Chapter 7, Fire and Smoke Protection Features, Section 701.6 Owner's responsibility

[The SFM proposes to repeal California amendments and replace with model code language.]

[TALL WOOD AND HEAVY TIMBER 2019 INTERVENING PROPOSALS]
[Associated Sections 701.6, 914.3.1.2, 3308.9]

**~~SECTION 708-709~~
EXTERIOR WALLS**

Item 7-3

Chapter 7, Fire and Smoke Protection Features, Section 708 Exterior Walls

[The SFM proposes to renumber section 708 based on changes in the model code.]

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

**CHAPTER 8
INTERIOR FINISH, DECORATIVE MATERIALS AND FURNISHINGS**

Item 8-1

Chapter 8, Interior Finish, Decorative Materials And Furnishings

[The SFM proposes to adopt Chapter 8 and carry forward amendments to Sections 803.3, Table 803.3, 803.5.1.2, 803.5.1.2, 803.5.1.3, 804.1, 804.3.3.1, 804.3.3.2, 804.3.3.3,

806.1.4, 806.2, 806.4, 807.3. 807.4-805.1.2.2, 807.5.3-807.5.3.4, 807.5.4, 807.5.6-807.5.7.1]

[The SFM proposes to not adopt Chapter 8 Sections 805, 806.1-806.1.3, 807.1-807.2, 807.5.1.3, 807.5.1.4, 807.5.2-807.5.2.3, 808]

**SECTION 805
UPHOLSTERED FURNITURE AND MATTRESSES
IN NEW AND EXISTING BUILDINGS**

Item 8-2

Chapter 8, Interior Finish, Decorative Materials And Furnishings, Sections 805.1 – 805.1.2.3 Group I-2, Condition 2

[The SFM proposes to modify Chapter 8, Section 805.1 and delete Sections 805.1.1-805.1.2.3 provisions for Group I-1, Condition 2 because the occupancy group is not used in California.]

**SECTION 806
NATURAL DECORATIVE VEGETATION IN NEW
AND EXISTING BUILDINGS**

Item 8-3

**Chapter 8, Interior Finish, Decorative Materials And Furnishings, Section 806.1.4
Fire-retardant treatments for natural cut trees**

[The SFM proposes to amend Section 806.1.4 to comply with Title 19 regulations.]

**SECTION 807
DECORATIVE MATERIALS AND ARTIFICIAL
DECORATIVE VEGETATION IN NEW AND
EXISTING BUILDINGS**

Item 8-4

**Chapter 8, Interior Finish, Decorative Materials And Furnishings, Section 807.4
Artificial Decorative Vegetation**

[The SFM proposes to correct references and delete reference to Condition 1, modifying Group I-2.]

Item 8-5

**Chapter 8, Interior Finish, Decorative Materials And Furnishings, Section 807.5.3
Groups I-2, and R-2.1**

[The SFM proposes to amend Section 807.5.3 by deleted the reference to I-1.2 which is not an occupancy in California and correct it to I-2.1 which was the intended occupancy.]

Item 8-6

Chapter 8, Interior Finish, Decorative Materials And Furnishings, Section 807.5.3.3 In Groups I-2, and I-2.1

[The SFM proposes to amend Section 807.5.3.3 by adding a comma between I-2 and I-2.1 and then add R-2.1, which was missed in the last printed edition.]

Item 8-7

Chapter 8, Interior Finish, Decorative Materials And Furnishings, Section 807.5.3.4 Other areas in Groups I-2, and I-2.1 and R-2.1

[The SFM proposes to amend Section 807.5.3.4 by correcting the error of I-1.2 to the correct occupancy of I-2.1.]

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

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CHAPTER 9
FIRE PROTECTION AND LIFE SAFETY SYSTEMS

Item 9-1

Chapter 9, Fire Protection And Life Safety Systems

The SFM proposes to adopt Chapter 9 and carry forward existing amendments. Proposed modifications are shown below.

SECTION 901
GENERAL

Item 9-2

Chapter 9, Fire Protection And Life Safety Systems, Section 901.5 Installation acceptance testings

The SFM proposes make an editorial change.

Item 9-3

Chapter 9, Fire Protection And Life Safety Systems, Table 901.6.1 Fire Protection System Maintenance

The SFM proposes make an editorial change.

Item 9-4

Chapter 9, Fire Protection And Life Safety Systems, Section 901.7 Systems out of service

The SFM proposes add the reference to the California NFPA 25 Edition.

**SECTION 903
AUTOMATIC SPRINKLER SYSTEMS**

Item 9-5

Chapter 9, Fire Protection And Life Safety Systems,

The SFM proposes errata.

Item 9-6

Chapter 9, Fire Protection And Life Safety Systems, Section

The SFM proposes errata.

Item 9-7

Chapter 9, Fire Protection And Life Safety Systems, Section 903.2.10.2 Mechanical access enclosed parking garages

The SFM proposes repeal California amendment and replace with model code language. [Associated Sections 903.2.10.2]

Item 9-8

Chapter 9, Fire Protection And Life Safety Systems, Table 903.2.11.6 Additional Required Fire Protection Systems

The SFM proposes repeal California amendment and replace with model code language and add an amendment as shown below.

Item 9-9

Chapter 9, Fire Protection And Life Safety Systems, Section 903.2.21

The SFM proposes a new section for sprinkler protection of exterior entrance covers. The proposed OSFM amendment requires automatic sprinkler protection for specific uses required by existing provisions of the California Building Code associated with Group I-2 occupancies.

The proposed SFM amendment requires sprinkler protection of required covered vehicle entrances. Such uses most nearly resemble Group S-2 occupancies. As such, occupancy separations between a Group I-2 and a Group S-2 are required to be not less than 2-hour fire-resistance-rated construction. The requirement for a 2-hour fire resistance separation

is due in part because, in model code, there is no requirement for sprinkler protection of these occupancies.

When considered with an SFM proposed amendment to CBC Table 508.4, this amendment will permit required entrance covers configured in accordance with the provisions for openings for open parking garages to be separated from Group I-2 occupancies by 1-hour fire-resistance-rated construction.

As additions to or extensions of 24-hour care health facilities, covered exterior entrances are already required to be protected by fire sprinkler systems in accordance with California Health and Safety Code, Section 13113(a). Where such covers also accommodate the means of egress for adjacent occupancies protected by automatic sprinklers, sprinkler protection is required at these covered entrances in accordance with CBC Section 1004.4.

The covered entrances are attached to buildings that are protected by existing automatic sprinkler systems. When coupled with a proposed OSFM amendment to CBC Table 508.4, the required separation between a Group I-2 and a covered entrance is permitted to be reduced from 2-hour fire-resistance rated construction to 1-hour fire-resistance rated construction.

The SFM amendment includes a fire sprinkler requirement specific to Group I-2 occupancies that is currently enforced. As such it should simplify the understanding of the requirement and eliminate confusion related to the required protection of these uses.

Item 9-10

Chapter 9, Fire Protection And Life Safety Systems, Section 903.3.1.1.1 Exempt locations

The SFM proposes repeal California amendment and move items 6 and 7 to a new section number. Section 903.3.1.1.1 requires the substitution of smoke detection when sprinklers are not provided. Solar photovoltaic panel structures are installed outdoors. Substituting smoke detectors is not appropriate at such locations.

SECTION 906 PORTABLE FIRE EXTINGUISHERS

Item 9-11

Chapter 9, Fire Protection And Life Safety Systems, Section 906.1 Where Required

The SFM proposes to carry forward existing amendments and delete new model code language.

SECTION 907 FIRE ALARM AND DETECTION SYSTEMS

Item 9-12

Chapter 9, Fire Protection And Life Safety Systems, Section 907.2 Where Required-new buildings and structures

The SFM proposes to carry forward existing amendments and correcting a reference number.

Item 9-13

Chapter 9, Fire Protection And Life Safety Systems, Section 907.2.3 Group E

The SFM proposes to carry forward existing amendments and delete new model code language.

Item 9-14

Chapter 9, Fire Protection And Life Safety Systems, Sections 907.2.6.4 Group I-4

The SFM proposes to add smoke detection requirements for Group I-4 occupancies.

Item 9-15

Chapter 9, Fire Protection And Life Safety Systems, Sections 907.2.6.5 Large Family Day-Care

The SFM proposes to renumber Section 907.2.6.4 to follow the addition of I-4 requirements.

Item 9-16

Chapter 9, Fire Protection And Life Safety Systems, Sections 907.2.11.2.1 through 907.2.11.2.5

The SFM proposes to carry forward existing amendments and renumber based on changes to the model code.

Item 9-17

Chapter 9, Fire Protection And Life Safety Systems, Sections 907.2.11.3 and 907.1.11.4

The SFM proposes to carry forward existing amendments and amend the reference Section number based on changes to the model code.

Item 9-18

Chapter 9, Fire Protection And Life Safety Systems, Section 907.2.11.8 Specific Location Requirements

The SFM proposes to modify existing amendments and amend the reference Section number based on changes to both the NFPA 72 standards and the model code.

Item 9-19

Chapter 9, Fire Protection And Life Safety Systems, Section 907.2.23 Energy Storage Systems

The SFM proposes to repeal California amendments and replace with model code language.

Item 9-20

Chapter 9, Fire Protection And Life Safety Systems, Section 905.2.1 Audible Alarms

The SFM proposes to renumber California amendments based on changes in the model code.

Item 9-21

Chapter 9, Fire Protection And Life Safety Systems, Section 905.2.1.4 Audible alarm signal

The SFM proposes to renumber California amendments based on changes in the model code.

Item 9-22

Chapter 9, Fire Protection And Life Safety Systems, Section 907.5.2.3 Visible Alarms

The SFM proposes to modify and amend section 907.5.2.3.

Item 9-23

Chapter 9, Fire Protection And Life Safety Systems, Section 907.6.4.4 Notification zoning Schools

The SFM proposes to correct a reference number.

Item 9-24

Chapter 9, Fire Protection And Life Safety Systems, Section 907.6.6.3 Group E Schools

The SFM proposes to renumber section 907.6.6.3 based on changes to the model code.

**SECTION 908
EMERGENCY ALARM SYSTEMS**

Item 9-25

Chapter 9, Fire Protection And Life Safety Systems, Section 908.4 Carbon dioxide Enrichment Systems

The SFM proposes to renumber section 907.6.6.3 based on changes to the model code.

SECTION 911 EXPLOSION CONTROL

Item 9-26

Chapter 9, Fire Protection And Life Safety Systems, Section 911.1 General

The SFM proposes to repeal California amendment and replace with model code language.

Item 9-27

Chapter 9, Fire Protection And Life Safety Systems, Table 911.1 Explosion Control Requirements

The SFM proposes to repeal California amendment and replace with model code language.

Item 9-28

Chapter 9, Fire Protection And Life Safety Systems, Table 911.4 Deflagration Venting

The SFM proposes to repeal California amendment and replace with model code language.

SECTION 913 FIRE PUMPS

Item 9-29

Chapter 9, Fire Protection And Life Safety Systems, Section 913.1 General

The SFM proposes to amend Section 913.1 to correlate the exception reference section to the applicable California Residential Code section number.

Item 9-30

Chapter 9, Fire Protection And Life Safety Systems, Section 913.1 General

The SFM proposes to repeal California amendments that reference Sections that are no longer applicable, relevant or exist.

SECTION 914 FIRE PROTECTION BASED ON SPECIAL DETAILED REQUIREMENTS OF USE AND OCCUPANCY

Item 9-31

Chapter 9, Fire Protection And Life Safety Systems, Section 914.3.1.2 Water Supply to Required Fire Pumps

The SFM proposes to amend Section 914.3.1.2 to correlate with amendments made to the California Building Code in the 2019 Intervening Code Cycle. This change was part of the

Tall Wood work group. The California Amendment is to address the requirement for all High-rise buildings without regard to the construction type.

Item 9-32

Chapter 9, Fire Protection And Life Safety Systems, Section 914.7 Special Amusement Areas

The SFM proposes to carry forward existing California amendments and repeal and replace with model code language.

Item 9-33

Chapter 9, Fire Protection And Life Safety Systems, Section 914.7.1 Automatic Sprinkler System

The SFM proposes to carry forward existing California amendments and repeal and replace with model code language.

Item 9-34

Chapter 9, Fire Protection And Life Safety Systems, Section 914.7.2 Fire Alarm System

The SFM proposes to carry forward existing California amendments and repeal and replace with model code language.

Item 9-35

Chapter 9, Fire Protection And Life Safety Systems, Section 916 Gas Detection Systems

The SFM proposes to repeal California amendments and replace with model code language.

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

**CHAPTER 10
MEANS OF EGRESS**

Item 10-1

Chapter 10, Means Of Egress

[The SFM proposes to adopt Chapter 10 and carry forward existing amendments. Modifications are shown below.]

Item 10-2

Chapter 10, Means Of Egress

[The SFM proposes an editorial change to get the term townhouse out of parentheses and eliminate the preceding text that describes what a townhouse is.]

**SECTION 1003
GENERAL MEANS OF EGRESS**

Item 10-3

Chapter 10, Means Of Egress

[The SFM proposes repeal California amendment to exception 1 and adopt model code language.]

**SECTION 1005
MEANS OF EGRESS SIZING**

Item 10-4

Chapter 10, Means Of Egress

[The SFM proposes delete model code language.]

**SECTION 1006
NUMBERS OF EXITS AND
EXIT ACCESS DOORWAYS**

Item 10-5

Chapter 10, Means Of Egress

[The SFM proposes to renumber exception 3, based on changes made to the model code.]

Item 10-6

Chapter 10, Means Of Egress

[The SFM proposes to correlate and simplify the egress requirements for refrigerated rooms and associated machinery rooms.]

Item 10-7

Chapter 10, Means Of Egress

[The SFM proposes to add Section 1006.2.2.8 which maintains the clear egress requirements for Group I-4 occupancies. This corresponds with Table 1006.2.1 for all I-4 occupancies.]

SECTION 1009 ACCESSIBLE MEANS OF EGRESS

Item 10-8 Chapter 10, Means Of Egress

[The SFM proposes to amend California amendment to reflect changes made in the model code based on revisions made in the 2017 ICC A117.1 document.]

Item 10-9 Chapter 10, Means Of Egress

[The SFM proposes to amend in coordination with OSHPD.]

SECTION 1010 DOORS, GATES AND TURNSTILES

Item 10-10 Chapter 10, Means Of Egress

[The SFM proposes to amend in coordination with OSHPD.]

Item 10-11 Chapter 10, Means Of Egress

[The SFM proposes to amend in coordination with OSHPD.]

Item 10-12 Chapter 10, Means Of Egress

[The SFM proposes to amend in coordination with OSHPD.]

Item 10-13 Chapter 10, Means Of Egress

[The SFM proposes to renumber based on model code language.]

Item 10-14 Chapter 10, Means Of Egress

[The SFM proposes to carry forward existing amendments to Section 1010.1.14 in coordination with OSHPD.]

Item 10-15
Chapter 10, Means Of Egress

[The SFM proposes to carry forward exiting amendments and modify as shown below.]

Item 10-16
Chapter 10, Means Of Egress

[The SFM proposes to amend in coordination with OSHPD.]

Item 10-17
Chapter 10, Means Of Egress

[The SFM proposes to carry forward existing amendments incorporated within new model code language.]

Item 10-18
Chapter 10, Means Of Egress

[The SFM proposes to amend.]

Item 10-19
Chapter 10, Means Of Egress

[The SFM proposes to repeal California amendment and replace with model code language.]

Item 10-20
Chapter 10, Means Of Egress

[The SFM proposes to renumber based on model code changes.]

Item 10-21
Chapter 10, Means Of Egress

[The SFM proposes to add maintenance and examination enforceable requirements that all in one place. These requirements are also in Chapter 11 for Existing Buildings.]

As stated in Section 1101.2, IFC Chapter 11 contains construction requirements for existing buildings to provide a minimum level of safety. Chapter 11 is not intended to contain maintenance or administrative requirements.

Sections 1104.16.7 and 1104.16.5.1 are clearly maintenance requirements. This code change will relocate the fire escape maintenance requirements to Section 1032 which cover maintenance of means of egress. Therefore, the sections in Chapter 11 are deleted. Section 1032.2.1.1 already contains some fire escape maintenance provisions, so the maintenance requirements from Chapter 11 are relocated here. This places all the maintenance requirements for fire escapes in one location.

Additionally, some jurisdictions do not adopt Chapter 11. Placing the maintenance requirements in Section 1032, will allow them to be applicable and enforceable for existing fire escapes even when Chapter 11 is not adopted.

Cost Impact: The code change proposal will not increase or decrease the cost of construction. This simply relocates requirements from one chapter to another.

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

CHAPTER 11 CONSTRUCTION REQUIREMENTS FOR EXISTING BUILDINGS

Item 11-1

Chapter 11, Construction Requirements For Existing Buildings

[The SFM proposes to adopt Chapter 11 Sections 1103.7, 1103.7.3, 1103.7.3.1, 1103.7.8-1103.7.8.2, 1103.7.9-1103.7.9.10, 1103.8-1103.8.5.3, carry forward existing amendments and make the following modifications as listed below.]

Item 11-2

Chapter 11, Construction Requirements For Existing Buildings, Section 1113.1.1 Application

[The SFM proposes to make an editorial correction.]

CHAPTER 12 ENERGY SYSTEMS

Item 12-1

Chapter 12, Energy Systems

[The SFM proposes to adopt Chapter 12, carry forward existing amendments and propose the following modifications listed below.]

SECTION 1201 GENERAL

Item 12-2 Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

CHAPTER 12 ENERGY SYSTEMS

Item 12-1 Chapter 12, Energy Systems

[The SFM proposes to adopt Chapter 12, carry forward existing amendments and propose the following modifications listed below.]

SECTION 1201 GENERAL

Item 12-2 Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-3 Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

SECTION 1202

DEFINITIONS

Item 12-4 **Chapter 12, Energy Systems**

[The SFM proposes to repeal California amendments and replace with model code language.]

SECTION 1203 **EMERGENCY AND STANDBY POWER SYSTEMS**

Item 12-5 **Chapter 12, Energy Systems**

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-6 **Chapter 12, Energy Systems**

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-7 **Chapter 12, Energy Systems**

[The SFM proposes to renumber section based on changes to model code.]

Item 12-8 **Chapter 12, Energy Systems**

[The SFM proposes to renumber section based on changes to model code and add additional description to the section title.]

Item 12-9 **Chapter 12, Energy Systems**

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-10 **Chapter 12, Energy Systems**

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-11
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

~~1205.14 Group R-3 and R-4 Fuel Cell Vehicle ESS Use. The temporary use of the dwelling unit owner or occupant's fuel cell powered electric vehicle to power a Group R-3 or R-4 dwelling while parked in an attached or detached garage or outside shall comply with the vehicle manufacturer's instructions and NFPA 70.~~

1205.14 Group R-3 and R-4 fuel cell vehicle energy storage system use. The temporary use of the dwelling unit owner or occupant's fuel cell powered electric vehicle to power a Group R-3 or R-4 dwelling while parked in an attached or detached garage or outside shall comply with the vehicle manufacturer's instructions and **California Electrical Code**.

SECTION 1207
ELECTRICAL ENERGY STORAGE SYSTEMS ~~(ESS)~~ (ESS)

Item 12-12
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-13
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-14
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-15
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-16
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-17
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-18
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-19
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-20
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-21
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-1
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-22
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-23
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-24
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-25
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-26
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-27
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-28
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-29
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-30
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-31
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-32
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-33
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-34
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-35
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-36
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-37
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-38
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-39
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-40
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-41
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-42
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-43
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-44
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-45
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-46
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-47
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-48
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-49
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-50
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-51
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-52
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-53
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-54
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-55
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-56
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-57
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-58
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-59
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-60
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-61
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-62
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-63
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-64
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-65
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-66
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-67
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-68
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-69
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-70
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-71
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-72
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-73
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-74
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-75
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-76
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-77
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-78
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-79
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-80
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-81
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-82
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-83
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-84
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-85
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-86
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-87
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-88
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-1
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-89
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-90
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-91
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-92
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-93
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-94
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-95
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-96
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-97
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-98
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-99
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-100
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-101
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-102
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-103
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-104
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-105
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-106
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language.]

Item 12-107
Chapter 12, Energy Systems

[The SFM proposes to repeal California amendments and replace with model code language and propose modifications based on further study of ESS.]

Note that the reference to Section 907.2.10 has been corrected by errata to Section 907.2.11 for the first printing of the 2021 IFC.

The purpose of this proposal is to:

1. Divide the single paragraph into distinct parts for clarity, separating the charging language from the provisions to provide single-station or multi-station smoke alarms per the code.
2. Correct the section pointer to section 907.2.10 to the revised location in the 2021 IFC, 907.2.11.
3. Clarify the intent is to provide both heat detection and alarm annunciation in the ESS location through the use of listed heat alarms. The term heat detector was replaced because the heat detectors do not include a local annunciator. A heat detector is only required to detect a heat event, and safety officials want an audible alarm. The term interconnected is removed from this section as the requirements for interconnection are provided in section 907.2.11 of the code.

Significant changes were made when the ESS requirements were updated in the 2021 International Residential Code. Those changes are also being introduced into the next edition of the NFPA 855 Stationary Energy Storage system standard. This update includes requirements that are identical to the 2021 IRC.

Item 12-108

Chapter 12, Energy Systems

[The SFM proposes to adopt amend Section 1207.11.7 based on further study of ESS systems with the collaboration with Sustainable Energy Action Committee (SEAC), ESS subgroup.]

First, a minor editorial change is needed to replace stationary storage battery system with ESS. This should have been part of a global change last cycle.

Second, the last sentence referring to appliances has been removed. Section 304.3 is related to the elevation of ignition sources not vehicle impact protection. The concern about raising ignition sources has historically been applied to fuel-fired appliances such as water heaters. These types of appliances are the only equipment able to be listed as flammable vapor ignition resistant. Even when a water heater has not been evaluated to ANSI Z21.10, only the actual ignition source needs to be elevated above 18", not the entire water heater. It's important to note that NFPA 70 does not consider the area below 18" a classified location in above-grade residential garages.

The third and most substantial change addresses the need for a clearly defined area in which a residential garage ESS installation would trigger the "Subject to Vehicle Damage" requirement found in 1207.11.7. The existing language has led to widely varying interpretations and enforcement of impact protection.

New language (1207.11.1) has been added to define this area and set the expectation that the barriers are intended to deflect, resist, or visually deter an impact. This language mirrors the existing Section 312.3 in the IFC.

A minimum installation height of 48" within the likely impact area has been added to allow elevation of the ESS as a permissible mitigation option. An exception to this 48" minimum has been included to recognize that a reduced garage opening height would thereby limit vehicle height and allow a lower placement of equipment before additional protection is needed. This exception is inspired by existing IMC Commentary:

"The height of the vehicle entry opening of the garage or carport can be used as a guide in determining how tall of a vehicle could be driven into the garage or carport"

A new Figure 1207.11.7.1 has been added to illustrate the zones in which a typical residential garage ESS installation would trigger the need for impact protection. This figure is based on existing IMC commentary related to the installation of fuel-fired appliances that may pose a fire hazard when damaged. The IMC commentary Figure 304.6 (2) has been modified to reflect common ESS installation locations and takes a similar approach to mitigating the risk of impact.

New language (1207.11.7.2) has been added to address other than garage locations that may also have vehicle access such as residential driveways, and also allows some flexibility to the AHJ and installer for larger, non-typical, or custom residential garages where the normal path of vehicle travel falls outside of the area defined in 1207.11.7.1.

Finally, the prescriptive barrier and post designs per IBC 1607.10 or IFC 312.2 may be appropriate for an energy storage system in a public access parking lot, garage, or another thoroughway. We are therefore not proposing any changes to 1207.4.5. However, the forces assumed in these sections are not representative of the impact scenarios expected in a private residential garage reserved for permanent occupants.

For example, the calculation in IBC 1607.8.3 results in approx. 12K lb.-force applied to the anchorage, which causes readily available bollard to concrete connections to fail. This effectively eliminates the possibility of retrofitting a floor mounted bollard as a solution. Additionally, the posts described in IFC 312.2 cannot be reasonably installed in an existing residential garage, and although uncommon especially those with tensioned concrete slabs. This leaves AHJs and installers with no guidelines for a retrofit bollard designed to deter vehicle operators from carelessly striking the ESS units. While IFC Section 312.3 does allow an alternative approach, designers, installers, and code officials will benefit from more explicit guidance within Section 1207.11. In new construction posts designed in accordance with Section 312 may be feasible, however it is unlikely that a homebuilder would be able to anticipate the installation of an ESS in a specific location in a garage. The proposed options for impact protection were inspired by existing IMC commentary figure 304.6(2). These options have been modified to provide a consistent amount of force resistance across the available choices, something the IMC commentary does not do. These options more reasonably reflect the expected impact scenario described in the commentary text:

“The barriers shown in the commentary figure will not eliminate all possibility of a motor vehicle contacting the appliances but will offer a reasonable warning to a driver who is slowly navigating near the appliances”

And:

“Although this section does not specifically require the impact protection provided to stop any type of vehicle at any speed, the intent is for the impact protection to cause the driver to want to stop vehicle movement out of concern for damage that could be occurring. The choice of the type, structural capacity and the location of barriers is the responsibility of the designer.”

Between limiting the locations that ESS Batteries can be installed, and defining the requirements when impact protection is required, the result will be an improved level of protection from the risk of vehicle impacts, and damage mitigation if incidents do occur.

Technical Justification

An engineering review of the impact protection guidance found across the I-Codes and ASCE 7-16 was completed. Specifically, Section 312 of both the prior and existing IFC, Section 4.5.3 of ASCE 7-16, and commentary language and figures associated with Section 304.6 of the IMC. It is important to recognize that the prescription of the IFC Section 312 for bollards in public driving areas does not lead to a bollard that will resist 12k lbs. as prior editions of the code suggested. In actual testing ((Harrison (SwRI), Evaluation of collision protection provided by vehicle impact bollards and propane cylinder exchange cabinets 2013)) the static resistance was between 900 lbs. at 36” (2.7k lbs. reaction) and 11k lbs. at 36” (33k lbs. reaction).

ASCE 7-16 specifies vehicle barrier systems must resist 6k lbs. load at between 18” and 27” (9k to 13.5k lbs. reaction) There are no commonly available retrofittable bollards that can do this in an average residential garage without adding thickness to the concrete.

The IMC commentary figure when back calculated sets a bar of physical resistance which seems more appropriate to this risk and allows for solutions that are more practical to apply. For example, the bollard shown in IMC commentary Figure 304.6(2) will take an impact of about 625 lbs. load applied at 24", resulting in a 1250 lb. reaction force at the post to base plate connection. Likely outcomes based on this force include:

No damage at 0.5 mph impact from an average passenger car.

Bollard would deflect permanently a few inches at a 2-mph collision speed

Anchor bolts would shear off or blowout at a 5-mph collision speed.

The limitation is mostly the concrete to base plate connection. The IRC requires a 2500-3000 psi mix for garages, and garages are often of stronger mix, especially in freeze prone areas. The average garage concrete slab will fall within these specifications: 2500 - 4000 psi concrete with 5" min thickness. Using 1/2" epoxy anchors this equates to roughly a 2mph impact that could be sustained without significant damage to the bollard. This is aligned with a standard Uline 4.5" bollard with 1/8" wall thickness and an 8x8x3/8" base plate. More strength requires a larger base plate, as the limitation is the connection to the concrete.

The bolt down bollard specified in this proposal will take a 2000 lb. impact, 24" off the ground with no damage, given 3000 psi concrete. More than 6" of permanent deflection, would require a very significant force, and then only touching the face of the ESS. This seems a reasonable level of protection, and clearance distance.

This proposal was prepared by the Sustainable Energy Action Committee (SEAC), a forum for all stakeholders (including, but not limited to, AHJs, designers, engineers, contractors, first responders, manufacturers, suppliers, utilities, and testing labs) to collaboratively identify and find solutions for issues that affect the installation and use of solar energy systems, energy storage systems, demand response, and energy efficiency. The purpose is to facilitate the deployment and use of affordable, clean and renewable energy in a safe, efficient, and sustainable manner. All recommendations from SEAC are approved by diverse stakeholders through a consensus process.

Bibliography:

Harrison, O. (2013). Evaluation of Collision Protection provided by vehicle impact bollards and propane cylinder exchange cabinets (Rep. No. 18.19083.01.107.FR1). Southwest Research Institute.

Cost Impact: The code change proposal will not increase or decrease the cost of construction. This proposal clarifies and gives more technical rigor to the requirements.

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through

25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

CHAPTER 13-19 RESERVED

CHAPTER 20 AVIATION FACILITIES

Item 20-1

Chapter 20, Aviation Facilities

[The SFM proposes to adopt Chapter 20 with existing amendments.]

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

CHAPTER 21 DRY CLEANING

Item 21-1

Chapter 21, Dry Cleaning

[The SFM proposes to adopt Chapter 21 with existing amendments.]

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

CHAPTER 22 COMBUSTIBLE DUST-PRODUCING OPERATIONS

Item 22-1

Chapter 22, Combustible Dust-Producing Operations

[The SFM proposes to adopt Chapter 22 with existing amendments.]

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

CHAPTER 23 MOTOR FUEL-DISPENSING FACILITIES AND REPAIR GARAGES

Item 23-1

Chapter 23, Motor Fuel-Dispensing Facilities And Repair Garages

[The SFM proposes to adopt Chapter 23 with existing amendments.]

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

CHAPTER 24 FLAMMABLE FINISHES

Item 24-1

Chapter 24, Flammable Finishes

[The SFM proposes to adopt Chapter 24 with existing amendments.]

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2,

13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

CHAPTER 25 FRUIT AND CROP RIPENING

Item 25-1

Chapter 25, Fruit And Crop Ripening

[The SFM proposes to NOT adopt Chapter 25.]

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

CHAPTER 26 FUMIGATION AND INSECTICIDAL FOGGING

Item 26-1

Chapter 26, Fumigation And Insecticidal Fogging

[The SFM proposes to NOT adopt Chapter 26.]

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

CHAPTER 27 SEMICONDUCTOR FABRICATION FACILITIES

Item 27-1
Chapter 27, Semiconductor Fabrication Facilities

[The SFM proposes to NOT adopt Chapter 27.]

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

CHAPTER 28
LUMBER YARDS AND AGRO-INDUSTRIAL,
SOLID BIOMASS AND WOODWORKING FACILITIES

Item 28-1
Chapter 28, Lumber Yards And Agro-Industrial, Solid Biomass And Woodworking Facilities

[The SFM proposes to adopt Chapter 28 with existing amendments.]

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

CHAPTER 29
MANUFACTURE OF ORGANIC COATINGS

Item 29-1
Chapter 29, Manufacture Of Organic Coatings

[The SFM proposes to adopt Chapter 29 with existing amendments.]

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502,

1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

CHAPTER 30 INDUSTRIAL OVENS

Item 30-1 Chapter 30, Industrial Ovens

[The SFM proposes to adopt Chapter 30 with existing amendments.]

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

CHAPTER 31 TENTS, TEMPORARY SPECIAL EVENT STRUCTURES AND OTHER MEMBRANE STRUCTURES

Item 31-1 Chapter 31, Tents, Temporary Special Event Structures And Other Membrane Structures

[The SFM proposes to adopt Chapter 31 with existing amendments.]

Item 31-2 Chapter 31, Tents, Temporary Special Event Structures And Other Membrane Structures

[The SFM proposes to adopt Chapter 31 with existing amendments.]

This proposal introduces basic safety requirements for inflatable amusement devices also known as “bounce houses”. There have been numerous reported incidents of accidents and injuries involving these devices caused by weather events such as sustained or wind

gusts and/or improper set-up, anchorage or use where the “bounce house” is uplifted, carried away and/or overturned with children or adults inside.

A proposal to regulate these devices was presented in the last cycle but there was concern the difference between outdoors and indoors and permits. At the time ASTM F2374 was not written in a way that it could be referenced but that has changed now and it is in good shape (including all mandatory language). No discussion of either location or permits is included in this proposal. This proposal is much more compact than the earlier one.

Chapter scoping section is modified to reference proposed new section. This new section simply adds basic fire and electrical safety requirements for the construction, placement and operation of portable inflatable amusement devices. The section addresses safety requirements for both outdoor and indoor use of these devices. The electrical safety section simply refers to an existing code section. A definition for inflatable amusement devices is also included to correlate the type of devices covered by these new IFC code requirements. The information regarding a certificate and affidavit refers to the existing sections for tents.

Item 31-3

Chapter 31, Tents, Temporary Special Event Structures And Other Membrane Structures, Section 3103.8.2 Location

[The SFM proposes delete the reference to Title 19 regulations.]

The Office of the State Fire Marshal conducted a Tent Workgroup that looked over the regulations, and provided recommendations for changes. This proposal is based a recommendation from the workgroup to clarify in the regulations.

The California Fire Code adopts the International Fire Code as the model, and Chapter 31 contains the regulations for tents. Section 3103.8.2 has the regulations for the 20-foot separation requirements. The section also contains exceptions where the 20 ft. can be reduced. The workgroup agreed that the exceptions were reasonable and should be included in the California regulations. Title 19 § 312, conflicts with the exceptions.

Health and Safety Code Section 13116 mandates the State Fire Marshal to prepared and adopt for tent, awning and other fabric enclosures. The building standards described in this section to for approval per Chapter 4, which is the California Building Standard Law.

This proposal correlates the removal of Title 19 § 312 in the California Fire Code. This removes and conflict and meets the Health & Safety Code Section 13116 for the adoption of the regulations through the California Building Standards Commission.

Item 31-4

Chapter 31, Tents, Temporary Special Event Structures And Other Membrane Structures

[The SFM proposes to add a regulation for the structural stability for tents.]

The use of water filled barrels as anchors has long been problematic. With a great deal of variance in how water filled barrels react based on connections, fill amounts, and connection of straps to the barrel itself, it is the intent of this code proposal to ensure that manufacturers of tents and membrane structures dictate how water barrels may be used to anchor their products, taking a local entity out of the equation.

Tent safety as performed by the tent installer is a very complicated issue and has an enormous number of variables. Many different factors go into proper anchoring of tents and many of those have scientific bases; but because each factor has an influence on the other factors the science can get very confusing.

To give an example of the variables involved, here is a short list

- Surface (concrete, dirt, asphalt, grass, other)

- Size of tent

- Type of stake

- Distance from tent of stake

- Geometry of staking pattern

- Angle of stake/strap

- Number of stakes/straps

- Stake/Strap connection method

- Type of soil

- Moisture level in soil

- Construction of strapping or rope

Quite often tents are set up on concrete. The ideal method would of installation on concrete are concrete anchors. These anchors are very strong.

Depending on the condition and age of the concrete the failure pressure of this type anchor is anywhere from 2000 to 3000 lbs. or more. This is as close to ideal as you are going to get in the tent business. Unfortunately for several reasons the property owner will not allow drilling and placement of concrete anchors.

"Water Barrels" are commonly used to secure tents. This is the method most often misused. A typical water barrel holds 50 gallons of water. Water weighs about 8.34 lbs. per gallon. So, the actual weight of a water barrel is about 420 lbs. Not nearly sufficient weight for holding down a large tent. A water barrel has a plastic bottom that tends to slide if pressure is applied. Water barrels are tied at the top, leaving your pressure point about 40" up (should be at absolute ground level). Water barrels also tend to tip over and spill their contents, effectively causing you to lose ballast.

If we have a 40x40 frame tent we will need a minimum of 16,000 lbs. of holding capacity to safely secure this tent in normal conditions. That means in the best of conditions we would need over 60 water barrels to secure one single 40x40 tent.

We can conclude that water barrels are not a good alternative for securing tents. And many municipalities have recognized that and no longer allow the use of water barrels. Safety and liability are the key factors. Most tent and membrane manufactures do not recommend water barrels do to the following reasons: Water barrels have a low coefficient of friction, reduce weight effectiveness to other methods, have a larger quantity of water barrels to other methods, the tie off location affect the amount to uplift that the barrel may withstand. For those manufacturers who would allow the use of water barrels for anchoring of their tents, a provision has been made to allow for the tent manufacturer to provide the documentation on their use.

For more information and videos please see the link below
<https://www.gettent.com/content/water-barrels-deadweights.asp>

Cost Impact: The code change proposal will not increase or decrease the cost of construction The cost of construction will not change since the option to use the water filled vessel is still allowed if approved by the manufacturer.

Item 31-5

Chapter 31, Tents, Temporary Special Event Structures And Other Membrane Structures

[The SFM proposes to add a new section 3106.]

This proposal introduces basic safety requirements for inflatable amusement devices also known as “bounce houses”. There have been numerous reported incidents of accidents and injuries involving these devices caused by weather events such as sustained or wind gusts and/or improper set-up, anchorage or use where the “bounce house” is uplifted, carried away and/or overturned with children or adults inside.

A proposal to regulate these devices was presented in the last cycle but there was concern regarding the difference between outdoors and indoors and permits. At the time ASTM F2374 was not written in a way that it could be referenced but that has changed now and it is in good shape (including all mandatory language). No discussion of either location or permits is included in this proposal. This proposal is much more compact than the earlier one. Chapter scoping section is modified to reference proposed new section. This new section simply adds basic fire and electrical safety requirements for the construction, placement and operation of portable inflatable amusement devices. The section addresses safety requirements for both outdoor and indoor use of these devices. The electrical safety section simply refers to an existing code section. A definition for inflatable amusement devices is also included to correlate the type of devices covered by these new IFC code requirements. The information regarding a certificate and affidavit refers to the existing sections for tents.

Cost Impact: The code change proposal will increase the cost of construction This will increase the cost of construction (compliance) because products that are unregulated will now require to undergo some fire testing.

CHAPTER 32

HIGH-PILED COMBUSTIBLE STORAGE

Item 32-1

Chapter 32, High-Piled Combustible Storage

[The SFM proposes to adopt Chapter 32 with existing amendments.]

Item 32-2

Chapter 32, High-Piled Combustible Storage

[The SFM proposes to adopt Chapter 32 with existing amendments.]

This entry of “lithium-ion” was added in the 2021 IFC. It is an open-ended reference and not clear on what is intended to be included. This proposal is intended to clarify the application of this item and specify that it is not intended to consider batteries installed in equipment or appliances. The hazard associated with a pile of lithium-ion batteries far exceeds the hazard of those same batteries located in devices and placed in packaging.

Cost Impact: The code change proposal will not increase or decrease the cost of construction. This is clarification. There is no affect to cost of construction.

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

CHAPTER 33 FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION

Item 33-1

Chapter 33, Fire Safety During Construction And Demolition

[The SFM proposes to adopt Chapter 33 with existing amendments.]

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

CHAPTER 34 TIRE REBUILDING AND TIRE STORAGE

Item 34-1

Chapter 34, Tire Rebuilding And Tire Storage

[The SFM proposes to adopt Chapter 34 with existing amendments.]

[The SFM proposes errata.]

3408.1 Water supply. A public or private fire protection water supply shall be provided in accordance with Section ~~508~~ **507**. The water supply shall be arranged such that any part of the storage yard can be reached by using not more than 500 feet (152 m) of hose.

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

CHAPTER 35 WELDING AND OTHER HOT WORK

Item 35-1

Chapter 35, Welding And Other Hot Work

[The SFM proposes to adopt Chapter 35 with existing amendments.]

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

CHAPTER 36

MARINAS

Item 36-1 Chapter 36, Marinas

[The SFM proposes to adopt Chapter 36 with existing amendments.]

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

CHAPTER 37 COMBUSTIBLE FIBERS

Item 37-1 Chapter 37, Combustible Fibers

[The SFM proposes to adopt Chapter 37 with existing amendments.]

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

CHAPTER 38 RESERVED ~~HIGHER EDUCATION LABORATORIES~~

Item 38-1 Chapter 38, Reserved

[The SFM proposes to DELETE Chapter 38 in its entirety. Do not print in the California Fire Code.]

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

CHAPTER 39 PROCESSING AND EXTRACTION FACILITIES

Item 39-1

Chapter 39, Processing And Extraction Facilities

[The SFM proposes to adopt Chapter 37 with existing amendments.]

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

CHAPTER 40 STORAGE OF DISTILLED SPIRITS AND WINES

Item 40-1

Chapter 40, Storage Of Distilled Spirits and Wines

[The SFM proposes to adopt Chapter 40 with amendments.]

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

CHAPTER 40 STORAGE OF DISTILLED SPIRITS AND WINES

Item 40-1

Chapter 40, Storage Of Distilled Spirits and Wines

[The SFM proposes to adopt Chapter 40 with amendments.]

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

CHAPTERS ~~40~~ 41 through 47 RESERVED

Item 41-1

Chapter 41-47, Reserved

[The SFM proposes to repeal the amendment to the Chapter Tile for Chapter 40 and replace with the model code Chapter 41. The California amendment for Chapter 47 is proposed to carry forward.]

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

CHAPTER 48 MOTION PICTURE AND TELEVISION PRODUCTION STUDIO SOUND STAGES, APPROVED PRODUCTION FACILITIES AND PRODUCTION LOCATIONS

Item 48-1

Chapter 48, *Motion Picture And Television Production Studio Sound Stages, Approved Production Facilities and Production Locations*

[The SFM proposes to adopt Chapter 48 with existing amendments.]

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

**CHAPTER 49
REQUIREMENTS FOR WILDLAND-URBAN
INTERFACE FIRE AREAS**

Item 49-1

Chapter 49, *Requirements For Wildland-Urban Interface Fire Areas*

[The SFM proposes to adopt Chapter 49 with amendments.]

User note:

Reason: The user note is being proposed as a commentary for the Chapter. This is consistent with the organization and layout of the Model code. The user note gives the code user a generally understanding and background information on the development process of the regulations contained in the chapter and how to apply them. The proposed amendments to Title 24 have been developed through the Office of the State Fire Marshal Wildland Urban Interface (WUI) task group, which is comprised of many local Fire Departments, building Industry representatives and interested stakeholders. The State Fire Marshal is very thankful for all the hard work and attention to the proposed solutions from the members of the task group for the mitigation of WUI building and land management. The collaboration with local fire departments, other state agencies, building industry, testing labs, and all stakeholders is the essence of what keeps California a leader in the successful approach to the WUI regulations.

SECTION 4901

GENERAL

4901.1 Scope.

Reason: The proposed change is editorial. It streamlines the paragraph to clearly identify what is proposed to be regulated within the chapter. This mirrors the basic structure of the model code and conforms with the organization of the chapter.

4901.2 Purpose.

Reason: The proposed change to the purpose of the chapter is to conform with the model code layout and organization of the chapter. The purpose of the chapter shall state clearly the intent the regulation is to accomplish and where. The proposal language reworked the existing language to be read more straight forward and clear.

SECTION 4902 DEFINITIONS

CDF DIRECTOR.

Reason: Editorial. Over the years the State Agency has updated the identity from CDF to CAL FIRE. The change is correcting an outdated term.

FIRE PROTECTION PLAN.

Reason: The proposal of a standard fire protection plan section 4903 warranted an updated definition. The second part of the definition is not needed any longer, as the new proposed Section 4903 will cover the requirements and regulations. The group expressed that having the regulation requirements in the definition was not appropriate.

FIRE HAZARD SEVERITY ZONES. *(no changes, keep existing text)*

FIRE-RESISTANT VEGETATION.

Reason: The term fire resistant vegetation which is referenced in Chapter 49 was not previously defined. Chapter 49 has been significantly revised, the definition will add clarification to the term used throughout the revision.

Realizing that vegetation can never be completely fire-resistant, the definition was composed to describe the beneficial characteristics that determine when vegetation is less likely to be a significant contributing factor in a wildfire. And while all burning vegetation will contribute some heat to a fire, the amount of heat is variable. For instance, dry grasses and other light fuels will initially contribute heat and proceed to burn out quickly compared to thick branches of a tree which take more energy to ignite, but will contribute significantly more heat once ignited than a light fuel.

The definition also pays homage to the requirements in Public Resources Code, Division 4, Part 2, Chapter 3, Section 4291 which stipulates the Department of Forestry and Fire Protection to provide guidance on fuel management ensuring “regionally appropriate vegetation suggestions that preserve and restore native species that are fire resistant and/or drought tolerant”. It is essential that in the widely variable climatic regions within California, that home owners have options to select regionally appropriate fire-resistant vegetation. And to ensure when not native to the region they do not create a higher risk of vegetative flammability than native vegetation. It is also not the intent to imply that native vegetation must be removed, but to allow a comparison of relative flammability between proposed non-native, new vegetation and existing native vegetation.

Cost Impact: The code change proposal will not increase or decrease the cost of construction. This adds clarification to a term referenced in the code.

IGNITION-RESISTANT MATERIAL.

Reason: The definition of ignition resistant material is being revised because SFM Standard 12-7A-5 has been rendered obsolete and is being deleted. In section 703 the standard will no longer appear, but ignition resistant materials will be accepted based on testing to an extended ASTM E84 test (to 30 minutes) or to ASTM E2768. That was the original intent of the SFM.

LOCAL RESPONSIBILITY AGENCY AREA VERY HIGH FIRE HAZARD SEVERITY ZONE (LRA).

Reason: Editorial update, no regulation change. Provides consistency with the language in the regulations.

STATE RESPONSIBILITY AREA (SRA).

Reason: Editorial addition of the acronym to be consistent with terminology used in the regulations.

WILDLAND-URBAN INTERFACE FIRE AREA (WUI).

Reason: The addition of the acronym is consistent with terminology used to describe the fire are in a wildland-urban interface. The acronym "WUI" is more commonplace than the spelled out meaning of the acronym. The proposal is to stay current with terminology.

SECTION 4903
PLANS [RESERVED]

4903.1 General.

Reason: The local jurisdiction in California have been requesting from the State Fire Marshal's office a standard plans section for some time. A State Fire Marshal (SFM) workgroup 2020 was assemble to take on the task of creating a statewide approach for requiring a fire protection plan for any property under consideration to mitigate the wildfire hazards that may exist.

4903.2 Contents.

Reason: The proposal sets a framework for the elements of a proposed fire protection plan to be considered. A local agency may require more information. This proposal is a baseline of what a general plan shall consist of for evaluating the associated risks with a property and its location within a wildland-urban interface area.

4903.2.1 Project information.

Reason: A proposed fire protection plan shall be approved before the start of any construction. This will ensure compliance with state and local laws. The enforcement of the protection plan starts at the beginning. This is a document that shall be referred to at any stage of a project.

4903.2.1.1 Preliminary Fire Protection Plan.

Reason: The SFM workgroup 2020 determined that a preliminary fire protection plan can help to move a project along and save money for the owner during the different phases of construction. The preliminary plan sets the groundwork and foundation for the boundaries of the project. This information is vital for planning departments and for cost analysis to be considered early on.

4903.2.1.2 Final Fire Protection Plan.

Reason: A final fire protection plan will include all the requirements of the preliminary plan with the added landscape details that may not have been completed in the early phase of a project. The fire official will now have a complete document of the project and the planned fire protection to ensure the safety of the community, neighbors, and first responders. These documents will help first responders pre-plan for any hazard incident.

SECTION 4904 FIRE HAZARD SEVERITY ZONES

4904.1 General.

Reason: The state agency acronym CDF is no longer used. This is an editorial update.

4904.2 Classifications.

Reason: The state agency acronym CDF is no longer used. This is an editorial update.

4904.3 Local Agency Requirements.

Reason: The California Department of Forestry and Fire Protection's Fire and Resource Assessment Program (FRAP) assesses the amount and extent of California's forests and rangelands, analyzes their conditions and identifies alternative management and policy guidelines. Assembly Bill 337 (Bates, 1992) required CAL FIRE in cooperation with local fire authorities to identify VHFHSZ's in the Local Responsibility Areas (LRA) of California.

VHFHSZ Definition/Background

As a result of the Oakland Hills fire, which destroyed some 2500 housing units and caused over \$2 billion in damages and 25 fatalities, Assemblyman Tom Bates introduced Assembly Bill 337 in the 1992 legislative session. This legislation was signed by the Governor on September 29, 1992 and became known as the Bates Bill. It added sections 51175-51188 to the Government Code relating to Very High Fire Hazard Severity Zones (VHFHSZ). Briefly, it required the California Department of Forestry and Fire Protection in cooperation with local fire authorities to identify areas of VHFHSZ's in the Local Responsibility Areas (LRA) of California. Once identified, CAL FIRE was to notify the local authority of the fact, who then had the option of adopting the model ordinance developed by the State Fire Marshal (SFM), adding to or subtracting areas from the identified zone(s), indicating that they already "meet or exceed" the Bates minimums, or some combination of the above. In short, the ordinances adopted require in most cases a "class B" roof for new construction or replacement of existing roofs (subsequent legislation passed in 1994 (AB 3819 - Willie Brown) raises this to Class A after January 1, 1997), plus other fire defense

improvements including minimum clearances of 30 feet around structures. Newer legislation (AB 1216 -Vargas and SB 1369 - Kuehl) give additional regulatory requirements associated with amendments to both relevant Govt. and Resource Codes associated with wildfire hazards. These data are based on the original assessments completed in 1998. 25 counties contain Very High Fire Hazard Severity Zones, and 33 do not.

VHFHSZ Data Limitations

VHFHSZ data were developed based on a hazard scoring schema using subjective criteria for fuels, fire history, terrain influences, housing density, and occurrence of severe fire weather designed to delimit areas where urban conflagration could result in catastrophic losses. CAL FIRE Units developed initial recommendation maps for areas meeting threshold hazard criteria, and these areas were then reviewed, modified, adopted or rejected by the local fire authority. While in intent the VHFHSZ mapping effort was sound, in application the final adopted areas represent only a portion of the state's LRA that poses significant fire hazards. Additionally, the boundaries of VHFHSZ areas were often determined based on municipal or other administrative boundaries, and consequently may reflect portions of a community that are not actually high hazard areas, but are adjacent to areas that are.

Thus, any use of these data should consider these implementation issues as a fundamental limitation of the data. Further, based on local authority, numerous local government agencies have reclassified lands as VHFHSZ after the original map data was developed, and applied local and/or state interpretation of fire hazard mitigation policies. Consequently, the map data showing VHFHSZ is out-of-date, incomplete, and reflects an inconsistent application of decision rules reflecting physical conditions contributing to hazard. For counties, active in updates to VHFHSZ, we are making efforts to link directly to local sites reporting current hazard zone data.

[Download maps and data from the Office of the State Fire Marshal](#)
[View Very High FHSZ with the online web viewer](#)

4904.3.1 Local Agency Ordinances.

Reason: Individuals reviewing local responsibility area hazard zone maps should contact their local agency to verify any adopted ordinances that may affect communities' hazard mapping and building code requirements.

Local agencies are not required to report such zoning actions and CAL FIRE does not have a current list of local agencies that have adopted ordinances establishing Very High Fire Hazard Severity zones within their boundaries.

Note: Government Code Section 51179 states, "A local agency shall designate, by ordinance, very high fire hazard severity zones in its jurisdiction within 120 days of receiving recommendations from the director pursuant to subdivisions (b) and (c) of Section 51179. A local agency shall be exempt from this requirement if ordinances of the local agency, adopted on or before December 31, 1992, impose standards that are equivalent to, or more restrictive than, the standards imposed by this chapter.

4904.3.2 Local Agency Discretion.

Reason:

VHFHSZ Data Limitations

VHFHSZ data were developed based on a hazard scoring schema using subjective criteria for fuels, fire history, terrain influences, housing density, and occurrence of severe fire

weather designed to delimit areas where urban conflagration could result in catastrophic losses. CAL FIRE Units developed initial recommendation maps for areas meeting threshold hazard criteria, and these areas were then reviewed, modified, adopted or rejected by the local fire authority. While in intent the VHFHSZ mapping effort was sound, in application the final adopted areas represent only a portion of the state's LRA that poses significant fire hazards. Additionally, the boundaries of VHFHSZ areas were often determined based on municipal or other administrative boundaries, and consequently may reflect portions of a community that are not actually high hazard areas, but are adjacent to areas that are.

Thus, any use of these data should consider these implementation issues as a fundamental limitation of the data. Further, based on local authority, numerous local government agencies have reclassified lands as VHFHSZ after the original map data was developed, and applied local and/or state interpretation of fire hazard mitigation policies. Consequently, the map data showing VHFHSZ is out-of-date, incomplete, and reflects an inconsistent application of decision rules reflecting physical conditions contributing to hazard. For counties, active in updates to VHFHSZ, we are making efforts to link directly to local sites reporting current hazard zone data.

[Download maps and data from the Office of the State Fire Marshal](#)
[View Very High FHSZ with the online web viewer](#)

SECTION 4905

WILDFIRE PROTECTION BUILDING CONSTRUCTION

4905.2 Construction methods and requirements within established limits.

Reason: Editorial update to the correct code section in the California Residential Code, Part 2.5 of Title 24.

4905.3 Establishment of limits.

Reason: Editorial change from a lower case a to an upper case A in the term State Responsibility Areas.

SECTION 4906

HAZARDOUS VEGETATION AND FUEL MANAGEMENT

Reason:

The previous Section 4906 – Hazardous Vegetation and Fuel Management was completely revised with the re-write of Chapter 49. The new Section 4906 Vegetation Management focuses on the planting of vegetation for new landscaping and to maintain defensible space for structures within the fire hazard severity zone and wildland urban interface areas. Chapter 7A Section 701A.5 of the California Fire Code requires vegetation management compliance prior to the final approval for building permits issued per Chapter 7A, this new section will give guidance on how to comply with the vegetation management compliance when new landscaping is planted in these areas.

This section will apply only to new plantings of vegetation (other than a brief mention of existing trees in section 4906.4.2) only in the State Responsibility Area and Local Responsibility Areas designated as a Very High Fire Severity Zone per the CAL FIRE Fire

Hazard Severity Zone maps. Existing vegetation management is addressed in Section 4907.

Requirements for landscape plans are laid out in this section. Since many local fire departments manage the Vegetation Management Compliance requirements from the California Building Code Chapter 7A through submittals of landscape plans, there was a need for language to spell out the minimum requirements. This section provides these requirements to ensure adequate information is provided on the plans in order to conduct a plan review.

It also addresses how to select fire resistant vegetation and provides basic information on planting to ensure that as the plantings grow to maturity they can be maintained per the defensible space requirements from Section 4907, as well as, the requirements of Public Resources Code 4291. Specifically addressed are shrubs and trees. The intention for shrubs are to select fire-resistant species and to purposefully plant them in groupings and arrangements that ensure they create a landscape that can be easily maintained as they grow. Similarly with shrubs, new tree plantings must also be carefully considered. Trees have the added ability to create a pathway that will lead a fire up to the most vulnerable portions of a house (eaves, vents and roofs), but also considered was the understanding that trees can provide much needed shade and can prevent the “urban heat island” effect.

Unique to the trees section are the requirements for non-fire-resistant vegetation. Since so many of the popular varieties of trees may not qualify for fire-resistant status, requirements for non-fire resistant vegetation are also found in the trees section. The requirement for non-fire-resistant vegetation are to simply plant them further away from structures to mitigate the additional hazard these trees may bring.

The existing tree requirements that are briefly mentioned in this section mirror the current requirements found in PRC Section 4291. It was felt to be important to mention the existing trees requirement here because it will be very likely existing trees will be part of a new landscape plans as property owners landscape their yards.

Cost Impact: The code change proposal may increase of the cost of construction dependent upon the landscaping material and vegetation selected in order to comply with this section, as well as the current vegetation management compliance requirements of CBC Chapter 7A.

SECTION 4907

DEFENSIBLE SPACE

4907.1 General.

4907.2 Application.

4907.3 Requirements.

Reason: The defensible space requirements that were in Section 4906 have been relocated to the appropriate section 4907. There is no regulation change.

SECTION 4908 **FIRE SAFE DEVELOPMENT REGULATIONS**

4908.1 General.

4908.2 Subdivision Map Findings.

Reason: AB 2911 (Friedman) September 21, 2018. Requires on or before July 1, 2021, and every five years thereafter, the Board, in consultation with the SFM, to survey local governments to identify existing subdivisions in the state responsible area (SRA) or VHFHS zones without a secondary egress route that are at significant fire risk.

SECTION 4909 **SUBDIVISION REVIEW SURVEY**

4909.1 Subdivision Identification.

4909.2 Fire Safety Recommendations.

4909.3 Implementation.

4909.4 Re-survey.

Reason: AB 2911 (Friedman) September 21, 2018. Requires the Board of Forestry (Board), in consultation with the State Fire Marshal (SFM), and specified local government to develop recommendations to improve the subdivision's fire safety. Authorizes the recommendations to include, but not be limited to, the following: a) Creating secondary access to the subdivision; b) Improvement to existing access road; and, c) Other additional fire safety measures. Requires the Board to provide the final recommendations developed to the subdivision and applicable local government.

SECTION 4910 **GENERAL PLAN SAFETY ELEMENT**

4910.1 General.

4910.2 Submission to the Board of Forestry and Fire Protection and Local Fire Agencies.

4910.3 Review by the Board of Forestry and Fire Protection and Local Fire Agencies.

4910.4 Adoption of the Safety Element.

Reason: AB 2911 (Friedman) September 21, 2018. Local planning. New houses are being built fastest in the places where they are most likely to burn: the wild fringe of urban areas, where neighborhoods are surrounded by canyons, hills or other open land covered in flammable vegetation. This is especially true in Southern California. Between 1990 and 2010, new houses went up twice as fast on the edge of developed lands than in the region as a whole. Riverside County leads the area with over 190,000 more houses built in high-risk areas during that time period, an increase of about 75%. The planning of communities in a way that reduces fire risk can be achieved through ensuring evacuation routes exist, identifying locations where fire breaks can be put in, and an ensuring adequate water supply exists are important steps to protecting communities from fire risks. The fire hardening of homes with the latest fire resistant material can also mitigate the risk of development in the SRA and VHFHS zones. Cities and counties are required to adopt a comprehensive general plan with various elements including a safety element for protection of the community from unreasonable risks associated with various hazards,

including wildfires. CAL FIRE acknowledges the importance of planning and its importance to wildland fire safety and risk mitigation. Land use planning incorporates safety element requirements for state SRA and VHFHS zones; requires local general plan safety elements, upon the next revision of the housing element on or after January 1, 2014, to be reviewed and updated as necessary to address the risk of fire in the SRA and VHFHS zones; requires each safety element update to take into account the most recent version of the Office of Planning and Research's "Fire Hazard Planning" document; and requires the Office of Planning and Research to include a reference to materials related to fire hazards or fire safety. SB 1241 (Kehoe), Chapter 311, Statutes of 2012, required local jurisdictions with land in the SRA and/or to VHFHS zone revise their general plan safety elements to include information AB 2911 Page 5 relating to the protection of the planning area from wildfire, and to revise that information whenever the housing element is amended. Through implementation of SB 1241 the Board has seen a significant increase in the quality of wildfire protection planning in general plan safety elements. In addition, the Board has had more engagement with local jurisdictions on these issues, since they are submitting their safety elements to the Board to review more frequently. The new requirements for wildfire planning in the safety element have increased wildfire planning efforts. Since April 2013, the Board has reviewed 45 safety elements, and has received letters back from jurisdictions explaining which recommendations they did or did not incorporate from 11 of them. However, in light of the increasing wildfire threat an argument could be made that more is needed. AB 2911 provides more tools for the Board to enhance its collaboration with local governments enhancing its ability to recommend changes based on best practices and by requiring a consultation if the local government decides not to take their recommendations. This is modeled after the consultation process used by the Department of Conservation for reviewing local governments mining regulation. There are several examples of local governments not taking the Board's recommendations to reduce their fire risks. This bill would provide an opportunity for the Board to explain why the recommendations are needed to reduce fire risk.

CHAPTER 50

HAZARDOUS MATERIALS—GENERAL PROVISIONS

Item 50-1

Chapter 50, Hazardous Materials—General Provisions

[The SFM proposes to adopt Chapter 50 with amendments.]

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

CHAPTER 51 AEROSOLS

Item 51-1 Chapter 51, Aerosols

[The SFM proposes to adopt Chapter 51.]

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

CHAPTER 52 RESERVED

CHAPTER 53 COMPRESSED GASES

Item 53-1 Chapter 53, Compressed Gases

[The SFM proposes to adopt Chapter 53 with amendments.]

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

CHAPTER 54 CORROSIVE MATERIALS

Item 54-1 Chapter 54, Corrosive Materials

[The SFM proposes to adopt Chapter 54 with amendments.]

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

CHAPTER 55 CRYOGENIC FLUIDS

Item 55-1 Chapter 55, Cryogenic Fluids

[The SFM proposes to adopt Chapter 55 with amendments.]

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

CHAPTER 56 EXPLOSIVES AND FIREWORKS

Item 56-1 Chapter 56, Explosives And Fireworks

[The SFM proposes to adopt Chapter 56 with amendments.]

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

CHAPTER 57 FLAMMABLE AND COMBUSTIBLE LIQUIDS

Item 57-1

Chapter 57, Flammable And Combustible Liquids

[The SFM proposes to adopt Chapter 57 with amendments.]

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

CHAPTER 58 FLAMMABLE GASES AND FLAMMABLE CRYOGENIC FLUIDS

Item 58-1

Chapter 58, Flammable Gases And Flammable Cryogenic Fluids

[The SFM proposes to adopt Chapter 58 with amendments.]

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

CHAPTER 59 FLAMMABLE SOLIDS

Item 59-1

Chapter 59, Flammable Solids

[The SFM proposes to adopt Chapter 59 with amendments.]

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

**CHAPTER 60
HIGHLY TOXIC AND TOXIC MATERIALS**

Item 60-1

Chapter 60, Highly Toxic And Toxic Materials

[The SFM proposes to adopt Chapter 60 with amendments.]

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

**CHAPTER 61
LIQUEFIED PETROLEUM GASES**

Item 61-1

Chapter 61, Liquefied Petroleum Gases

[The SFM proposes to adopt Chapter 61 with amendments.]

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources

Code Sections 4201 through 4204

CHAPTER 62 ORGANIC PEROXIDES

Item 62-1

Chapter 62, Organic Peroxides

[The SFM proposes to adopt Chapter 62 with amendments.]

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

CHAPTER 63 OXIDIZERS, OXIDIZING GASES AND OXIDIZING CRYOGENIC FLUIDS

Item 63-1

Chapter 63, Oxidizers, Oxidizing Gases And Oxidizing Cryogenic Fluids

[The SFM proposes to adopt Chapter 63 with amendments.]

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

CHAPTER 64 PYROPHORIC MATERIALS

Item 64-1

Chapter 64, Pyrophoric Materials

[The SFM proposes to adopt Chapter 64 with amendments.]

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

**CHAPTER 65
PYROXYLIN (CELLULOSE NITRATE) PLASTICS**

Item 65-1

Chapter 65, Pyroxylin (Cellulose Nitrate) Plastics

[The SFM proposes to adopt Chapter 65 with amendments.]

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

**CHAPTER 66
UNSTABLE (REACTIVE) MATERIALS**

Item 66-1

Chapter 66, Unstable (Reactive) Materials

[The SFM proposes to adopt Chapter 66 with amendments.]

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

CHAPTER 67 WATER-REACTIVE SOLIDS AND LIQUIDS

Item 67-1

Chapter 67, Water-Reactive Solids And Liquids

[The SFM proposes to adopt Chapter 67 with amendments.]

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

CHAPTERS 68 through 79 RESERVED

CHAPTER 80 REFERENCED STANDARDS

Item 80-1

Chapter 80, Referenced Standards

[The SFM proposes to adopt Chapter 80 with amendments.]

Item 80-2

Chapter 80, ASTM F2374 Standard Practice For Design, Manufacture, Operation, and Maintenance Of Inflatable Amusement Devices

Item 80-3

Chapter 80, NFPA 2 Hydrogen Technologies Code

NFPA 2-4920

The SFM is proposing to update the referenced standard to correlate with the other parts of Title 24. The rulemaking process between the different model codes can cause conflict in the adoption of the latest standards. The proposal is to establish consistency within the parts of the California Buildings Standards Code.

Item 80-4
Chapter 17, NFPA 10 Portable Fire Extinguishers

NFPA 10-1821

The SFM is proposing to update the referenced standard to correlate with the other parts of Title 24. The rulemaking process between the different model codes can cause conflict in the adoption of the latest standards. The proposal is to establish consistency within the parts of the California Buildings Standards Code.

Item 80-5
Chapter 80, NFPA 13 Installation of Sprinkler Systems *as amended**

NFPA 13-201922

****See California Fire Code for amendments***

The SFM is proposing to update the referenced standard to correlate with the other parts of Title 24. The rulemaking process between the different model codes can cause conflict in the adoption of the latest standards. The proposal is to establish consistency within the parts of the California Buildings Standards Code. NFPA 13 is amended in the California Fire Code. The reference to the amendments is a reminder that California has amended the National Standard to align with State laws and regulations.

Item 80-6
Chapter 80, NFPA 13D Standard for the Installation of Sprinkler Systems in One- and Two-family Dwellings and Manufactured Homes *as amended**

Item 80-7
Chapter 80, NFPA 13R Standard for the Installation of Sprinkler Systems in Low-rise Residential Occupancies *as amended**

Item 80-8
Chapter 80, NFPA 14 Standard for the Installation of Standpipe and Hose Systems *as amended**

Item 80-9
Chapter 80, NFPA 24 Installation of Private Fire Service Mains and Their Appurtenances *as amended**

Item 80-10
Chapter 80, NFPA 25 Standard for the Inspection, Testing and Maintenance of Water-based Fire Protection Systems

Item 80-11

Chapter 80, NFPA 45 Standard on Fire Protection for Laboratories Using Chemicals (2015 Edition)

Item 80-12

Chapter 80, NFPA 68 Standard on Explosion Protection by Deflagration Venting

[Repeal and replace.]

Item 80-13

Chapter 80, NFPA 72 National Fire Alarm and Signaling Code, as amended*

NFPA 72-~~1922~~

Item 80-14

Chapter 80, NFPA 76 Standard for the Fire Protection of Telecommunications Facilities

~~76—16: Standard for the Fire Protection of Telecommunications Facilities~~

76—16: Standard for the Fire Protection of Telecommunications Facilities
1207.1.2.1, 1207.2.1, 1207.3.1, 1207.3.7.1, 1207.4.1, 1207.5.1, 1207.5.2, 1207.5.3,
1207.5.5, Table 1207.6, 1207.6.2.3, Table 1207.7

Item 80-15

Chapter 80, NFPA 111 Standard on Stored Electrical Energy Emergency and Standby Power Systems

NFPA 111-~~1619~~

Item 80-16

Chapter 80, NFPA 241 Standard for Safeguarding Construction, Alteration and Demolition Operations

NFPA 241-~~1319~~

Item 80-17

Chapter 80, NFPA 260 Methods of Tests and Classification System for Cigarette Ignition Resistance of Components of Upholstered Furniture

NFPA 260-~~1319~~

Item 80-18

Chapter 80, NFPA 289 Standard Method of Fire Test for Individual Fuel Packages

NFPA 289-~~18~~19

Item 80-19

Chapter 80, NFPA 1124-17 Code for the Manufacture, Transportation, Storage and Retail Sales of Fireworks and Pyrotechnic Articles

1124-~~17~~17: Code for the Manufacture, Transportation, and Storage of Fireworks and Pyrotechnic Articles

202, 5604.2, 5605.1, 5605.3, 5605.4, 5605.5, 5609.1

Item 80-20

Chapter 80, NFPA 2001 Standard on Clean Agent Fire Extinguishing Systems

2001—18: Standard on Clean Agent Fire Extinguishing Systems as amended*

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

APPENDICES

**APPENDIX CHAPTER 4
SPECIAL DETAILED REQUIREMENTS
BASED ON USE AND OCCUPANCY**

Item A4-1

Appendix 4, Special Detailed Requirements Based on Use and Occupancy

[The SFM proposes to adopt Appendix 4.]

Item A4-2

Appendix 4, Special Detailed Requirements Based on Use and Occupancy

[The SFM proposes to amend Section 436.1.]

Justification:

Exception #2 is being proposed for deletion because...the workgroup is separating out the E's from the I-4's. this provision is for E's and no longer is appropriate. It is no longer applicable. The E provisions already exist in 452 and defined in 305. In exception #3, because the new construe types are deemed to be equal to type I and Type II (tall wood).

In exception #3, The correct term for smoke detection is automatic smoke detection. This is an editorial change to correlate the language. The propose does not have regulatory affect. The change from child care center and adult day care was to be clear in the intent for both age group uses.

In exception #3.5, Exception 3.4 already requires each compartment to have atmospheric separation, but it is not abundantly clear that it is required to be maintained for the path of egress. The addition of the smoke barrier and reference to 709 is to clarify the requirement which aligns with 452 Exception 3.5 for Group E day cares which already requires atmospheric separation but is intended to require an equal or lesser level of protection as an I-4. This also aligns with 1022.1 for maintaining the required level of protection and 452.1.2 which also requires atmospheric separation for some Group E occupancies. This is an editorial addition to provide clarity. The This propose proposal propose does not have regulatory affect.

Item A4-3

Appendix 4, Special Detailed Requirements Based on Use and Occupancy

[The SFM proposes to amend Section 436.1.1.]

Justification: The Group E daycares required a direct exit by section 308.5.1 and this was less restrictive than the group I-4 daycares. This addition maintains the direct exiting requirement, but allows for a rated corridor with a minimum width of 60 inches. This is consistent with section 435.8.4.2 for non- ambulatory clients and would allow for a crib to roll down the corridor for emergency evacuation.

Item A4-4

Appendix 4, Special Detailed Requirements Based on Use and Occupancy

[The SFM proposes to amend Section 452 Title.]

**SECTION 452
SCHOOL FACILITIES FOR KINDERGARTEN
THROUGH 12TH GRADE AND GROUP E DAY CHILD CARE**

Item A4-5

Appendix 4, Special Detailed Requirements Based on Use and Occupancy

[The SFM proposes to amend Section 452.1.4.]

In exception #3, This also adds Type IV construction to correlate with 503 for the new types of construction, because the new construction types are deemed to be equal to type I and Type II (tall wood).

In exception #3, The correct term for smoke detection is automatic smoke detection. This is an editorial change to correlate the language. The propose does not have regulatory affect.

In exception #3.5, Exception 3.5 already requires each path of travel to have atmospheric separation. This is an editorial addition to provide clarity. The This propose proposal does not have regulatory affect.

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

**APPENDIX A
BOARD OF APPEALS**

Item A-1

Appendix A, Board of Appeals

[The SFM proposes to NOT adopt Appendix A.]

**APPENDIX B
FIRE-FLOW REQUIREMENTS FOR BUILDINGS**

Item B-1

Appendix B, Fire-Flow Requirements For Buildings

[The SFM proposes to adopt Appendix B.]

**APPENDIX BB
FIRE-FLOW REQUIREMENTS FOR BUILDINGS**

Item BB-1

Appendix BB, Fire-Flow Requirements For Buildings

[The SFM proposes to adopt Appendix BB.]

**APPENDIX C
FIRE HYDRANT LOCATIONS AND DISTRIBUTION**

Item C-1

Appendix C, Fire Hydrant Locations And Distribution

[The SFM proposes to adopt Appendix C.]

**APPENDIX CC
FIRE HYDRANT LOCATIONS AND DISTRIBUTION**

Item CC-1

Appendix CC, Fire Hydrant Locations And Distribution

[The SFM proposes to adopt Appendix CC.]

**APPENDIX D
FIRE APPARATUS ACCESS ROADS**

Item DD-1

Appendix D, Fire Apparatus Access Roads

[The SFM proposes to NOT adopt Appendix D.]

**APPENDIX E
HAZARD CATEGORIES**

Item E-1

Appendix E, Hazard Categories

[The SFM proposes to NOT adopt Appendix E.]

**APPENDIX F
HAZARD RANKING**

Item F-1

Appendix F, Hazard Ranking

[The SFM proposes to NOT adopt Appendix F.]

**APPENDIX G
CRYOGENIC FLUIDS—WEIGHT AND VOLUME EQUIVALENTS**

Item G-1

Appendix G, Cryogenic Fluids—Weight And Volume Equivalents

[The SFM proposes to NOT adopt Appendix G.]

**APPENDIX H
HAZARDOUS MATERIALS MANAGEMENT PLAN (HMMP)
AND HAZARDOUS MATERIALS INVENTORY STATEMENT (HMIS)
INSTRUCTIONS (See Sections 5001.5.1 and 5001.5.2)**

Item H-1

**Appendix H, Hazardous Materials Management Plan (HMMP) And Hazardous
Materials Inventory Statement (HMIS) Instructions**

[The SFM proposes to adopt Appendix H.]

**APPENDIX I
FIRE PROTECTION SYSTEMS—NONCOMPLIANT CONDITIONS**

Item I-1

Appendix I, Fire Protection Systems—Noncompliant Conditions

[The SFM proposes to NOT adopt Appendix I.]

**APPENDIX J
BUILDING INFORMATION SIGN**

Item J-1

Appendix J, Building Information Sign

[The SFM proposes to NOT adopt Appendix J.]

**APPENDIX K
CONSTRUCTION REQUIREMENTS FOR
EXISTING AMBULATORY CARE FACILITIES**

Item K-1

Appendix K, Construction Requirements For Existing Ambulatory Care Facilities

[The SFM proposes to NOT adopt Appendix K.]

**APPENDIX L
REQUIREMENTS FOR FIRE FIGHTER
AIR REPLENISHMENT SYSTEMS**

Item L-1

Appendix L, Requirements For Fire Fighter Air Replenishment Systems

[The SFM proposes to NOT adopt Appendix L.]

**APPENDIX M
HIGH-RISE BUILDINGS—RETROACTIVE
AUTOMATIC SPRINKLER REQUIREMENT**

Item M-1

Appendix M, High-Rise Buildings—Retroactive Automatic Sprinkler Requirement

[The SFM proposes to NOT adopt Appendix M.]

**APPENDIX N
INDOOR TRADE SHOWS AND EXHIBITIONS**

Item N-1

Appendix N, Indoor Trade Shows And Exhibitions

[The SFM proposes to NOT adopt Appendix N.]

**APPENDIX O
TEMPORARY HAUNTED HOUSES,
GHOST WALKS AND SIMILAR AMUSEMENT USES**

Item O-1

Appendix O, Temporary Haunted Houses, Ghost Walks And Similar Amusement Uses

[The SFM proposes to NOT adopt Appendix O.]

**APPENDIX P
COMMUNITY WILDLAND-URBAN INTERFACE (WUI)
FIRE HAZARD EVALUATION FRAMEWORK**

Item P-1

Appendix P, Community Wildland-Urban Interface (WUI) Fire Hazard Evaluation Framework

[The SFM proposes to NOT adopt Appendix P.]

APPENDIX P
COMMUNITY WILDLAND-URBAN INTERFACE (WUI)
FIRE HAZARD EVALUATION FRAMEWORK

Reason:

The proposed appendix in the California Fire Code is meant to be a tool to enable communities to collect, assemble, and represent the associated risks within the Wildland Urban Interface (WUI) fire area.

Community level fire hazard data is not always readily available in a centralized location and not in a standard format. The proposed framework enables communities' leaders to collect their WUI fire hazard data in an immediately accessible format.

This framework allows the community WUI fire hazard area data to be an inclusive picture. Part of the data assembled in the framework layout will help first responders during an incident. This data may enhance situational awareness, facilitate ingress and egress routes, and increase structure survivability through targeted fire responder actions.

The framework allows decision makers the ability to access WUI fire hazard risks across multiple communities when implemented in this standardized method. For example, a comparison can be made between a community of 5,000 residents to a community with 20,000 residents. They will be able to compare their overall fire hazard as well as the relative fire hazard.

The information from the standardized framework may be used to assist with making design and prioritize resources at the community, county, and state level. These resources may include funding for fuel treatment around communities in designated very high fire hazard severity zones.

The proposed framework has the benefit of enabling communities, county and state to use a methodized approach to assess hazards, offer property solutions and inform first responders before and during incidents.

The cost impact will be varied. Much of the data is already available, but may be in many different documents. Pulling the data together will range from zero to a new community starting from scratch. The intent is to be a standard approach for any size community.

The benefits are to optimize state, county and community resources including life safety.

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through

25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

TECHNICAL, THEORETICAL, AND EMPIRICAL STUDY, REPORT, OR SIMILAR DOCUMENTS

Government Code Section 11346.2(b)(3) requires an identification of each technical, theoretical, and empirical study, report, or similar document, if any, upon which the agency relies in proposing the regulation(s).

The SFM did not rely on any technical, theoretical, and empirical study, report, or similar documents outside of those contained in this rulemaking in proposing that CBSC adopt said model code as a reference standard for the placement of existing SFM regulatory amendments for the California Building Standards Codes.

STATEMENT OF JUSTIFICATION FOR PRESCRIPTIVE STANDARDS

Government Code Section 11346.2(b)(1) requires a statement of the reasons why an agency believes any mandates for specific technologies or equipment or prescriptive standards are required.

The SFM believes that the amendments to the model code and additional building standards proposed are offered in both a prescriptive and performance base. The nature and format of the model code adopted by reference allow for both methods, the following is a general overview of the model code proposed to be adopted by reference as well as state modifications:

This comprehensive electric code establishes minimum regulations for fire prevention and fire protection systems using prescriptive and performance-related provisions. It is founded on broad-based principles that make possible the use of new materials and new system designs.

This code is founded on principles intended to establish provisions consistent with the scope of a building and fire code that adequately protects public health, safety and welfare; provisions that do not unnecessarily increase construction costs; provisions that do not restrict the use of new materials, products or methods of construction; and provisions that do not give preferential treatment to types or classes of materials, products or methods of construction.

The International Fire Code (IFC) provisions provide many benefits, among which is the model code development process that offers an international forum for building and fire safety professionals to discuss performance and prescriptive code requirements. This forum provides an excellent arena to debate proposed revisions. This model code also encourages international consistency in the application of provisions.

CONSIDERATION OF REASONABLE ALTERNATIVES

Government Code Section 11346.2(b)(4)(A) requires a description of reasonable alternatives to the regulation and the agency's reasons for rejecting those alternatives. In the case of a regulation that would mandate the use of specific technologies or equipment

or prescribe specific action or procedures, the imposition of performance standards shall be considered as an alternate. It is not the intent of this paragraph to require the agency to artificially construct alternatives or describe unreasonable alternatives.

The SFM has determined that no alternative considered would be more effective in carrying out the purpose for which the regulation is proposed or would be as effective and less burdensome to affected private persons than the proposed adoption by reference with SFM amendments. Therefore, there are no alternatives available to the SFM regarding the proposed adoption of this code.

REASONABLE ALTERNATIVES THE AGENCY HAS IDENTIFIED THAT WOULD LESSEN ANY ADVERSE IMPACT ON SMALL BUSINESS

Government Code Section 11346.2(b)(4)(B) requires a description of any reasonable alternatives that have been identified or that have otherwise been identified and brought to the attention of the agency that would lessen any adverse impact on small business.

The SFM has determined that no alternative considered would be more effective in carrying out the purpose for which the regulation is proposed or would be as effective and less burdensome to affected private persons than the proposed adoption by reference with SFM amendments. Therefore, there are no alternatives available to the SFM regarding the proposed adoption of this code.

FACTS, EVIDENCE, DOCUMENTS, TESTIMONY, OR OTHER EVIDENCE OF NO SIGNIFICANT ADVERSE IMPACT ON BUSINESS

Government Code Section 11346.2(b)(5)(A) requires the facts, evidence, documents, testimony, or other evidence on which the agency relies to support an initial determination that the action will not have a significant adverse economic impact on business.

The SFM has determined that this proposed action will not have a significant adverse economic impact on business. Health and Safety Code Section 18928 requires the SFM, when proposing the adoption of a model code, national standard, or specification shall reference the most recent edition of the applicable model code, national standard, or specification. Therefore, there are no other facts, evidence, documents, testimony, or other evidence on which the SFM relies to support this rulemaking.

ASSESSMENT OF EFFECT OF REGULATIONS UPON JOBS AND BUSINESS EXPANSION, ELIMINATION OR CREATION

Government Code Sections 11346.3(b)(1) and 11346.5(a)(10)

T has assessed whether or not and to what extent this proposal will affect the following:

- A.** The creation or elimination of jobs within the State of California.
These regulations will not affect the creation, or cause elimination, of jobs within the State of California.
- B.** The creation of new businesses or the elimination of existing businesses within the State of California.
These regulations will not affect the creation or the elimination of existing business within the State of California.
- C.** The expansion of businesses currently doing business within the State of California.

These regulations will not affect the expansion of business currently doing business within the State of California.

- D.** The benefits of the regulation to the health and welfare of California residents, worker safety, and the state's environment.

These regulations will update and improve minimum existing building standards, which will provide increased protection of public health and safety, worker safety and the environment.

ESTIMATED COST OF COMPLIANCE, ESTIMATED POTENTIAL BENEFITS, AND RELATED ASSUMPTIONS USED FOR BUILDING STANDARDS

Government Code Section 11346.2(b)(5)(B)(i) states if a proposed regulation is a building standard, the initial statement of reasons shall include the estimated cost of compliance, the estimated potential benefits, and the related assumptions used to determine the estimates.

The SFM does not anticipate any significant cost of compliance with the proposed building standards. The regulations are based on the model code. Health & Safety section 18928 requires that building standard be essentially the same as the most recent edition of the uniform industry codes. These regulations benefits are to have clear, concise, complete and update text of the regulations and standards.

DUPLICATION OR CONFLICTS WITH FEDERAL REGULATIONS

Government Code Section 11346.2(b)(6) requires a department, board, or commission within the Environmental Protection Agency, the Resources Agency, or the Office of the State Fire Marshal to describe its efforts, in connection with a proposed rulemaking action, to avoid unnecessary duplication or conflicts with federal regulations contained in the Code of Federal Regulations addressing the same issues. These agencies may adopt regulations different from these federal regulations upon a finding of one or more of the following justifications: (A) The differing state regulations are authorized by law and/or (B) The cost of differing state regulations is justified by the benefit to human health, public safety, public welfare, or the environment.

The SFM has determined that this proposed rulemaking action does not unnecessary duplicate or conflict with federal regulations contained in the Code of Federal Regulations that address the same issues as this proposed rulemaking.